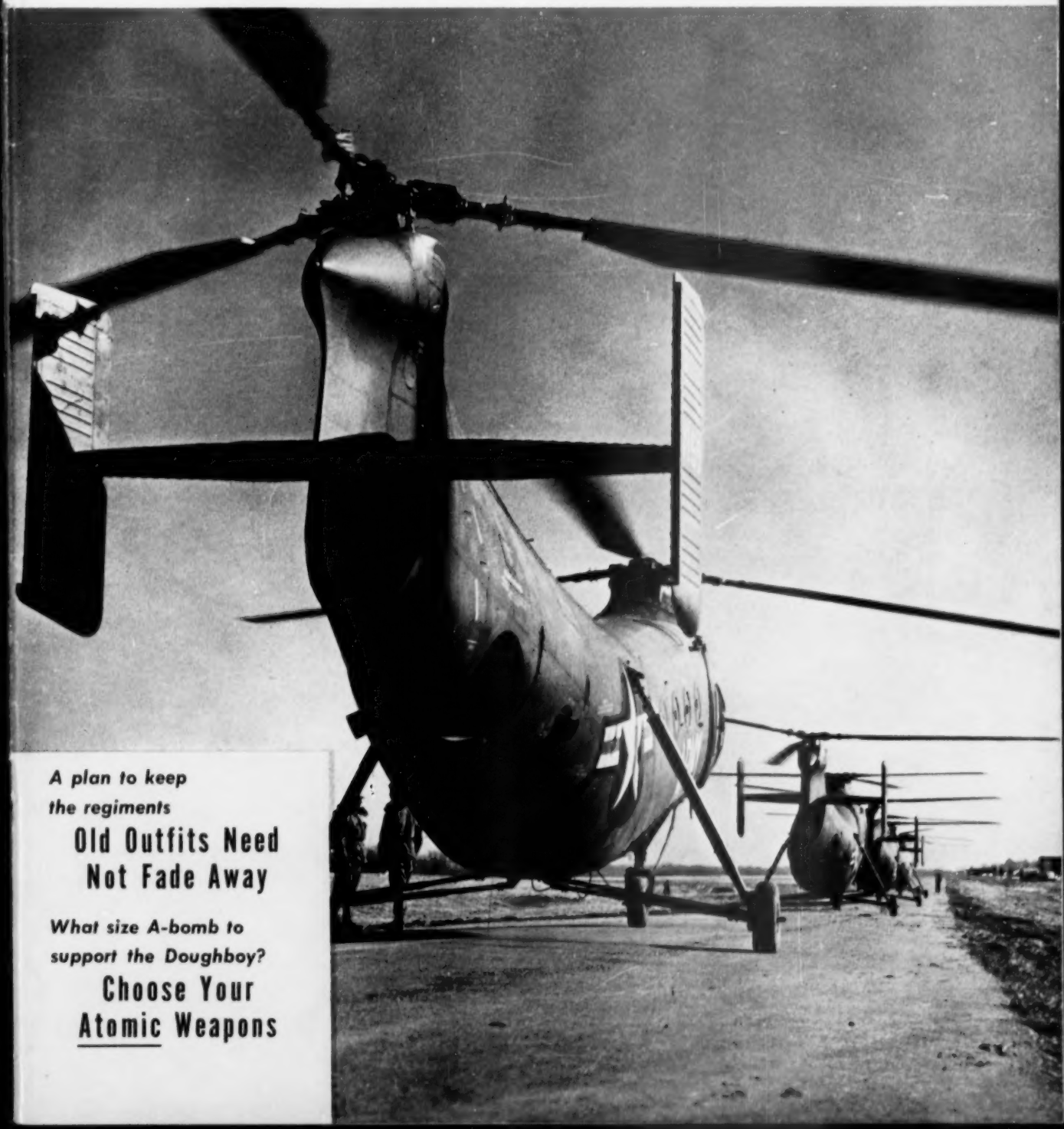
ARMY

MAY 1956 50¢



A plan to keep the regiments

Old Outfits Need Not Fade Away

What size A-bomb to support the Doughboy?

Choose Your Atomic Weapons

Line Sergeant M/Sgt Albert E. Rhode checks the day's work schedule with his 509th maintenance crew

A sentry walks post along a flight line of H-21s at Davison Army Airfield, Fort Belvoir

Five Army aviators leave the flight line after finishing a Department of the Army mission

COPTER COMPANY

The 509th Transportation Company (Helicopter) stationed at Davison Army Airfield at Fort Belvoir, just outside of Washington, has the mission of supporting The Engineer Center and providing helicopter airlift to the Department of the Army. (Several months ago a helicopter landing pad was constructed hard by the Pentagon for Department of Defense use.)

A flight of nine H-21 helicopters of the 509th Transportation Company returns to base after a training flight

They Fight for the Green Beret

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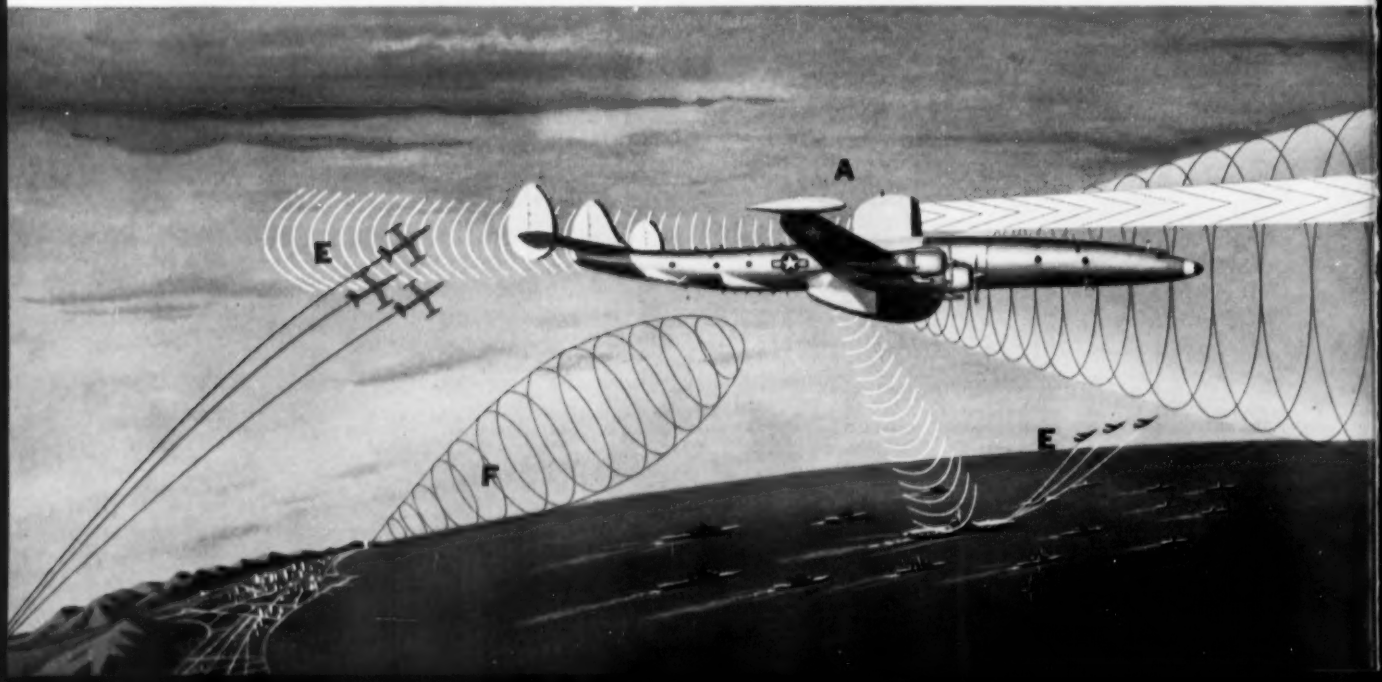

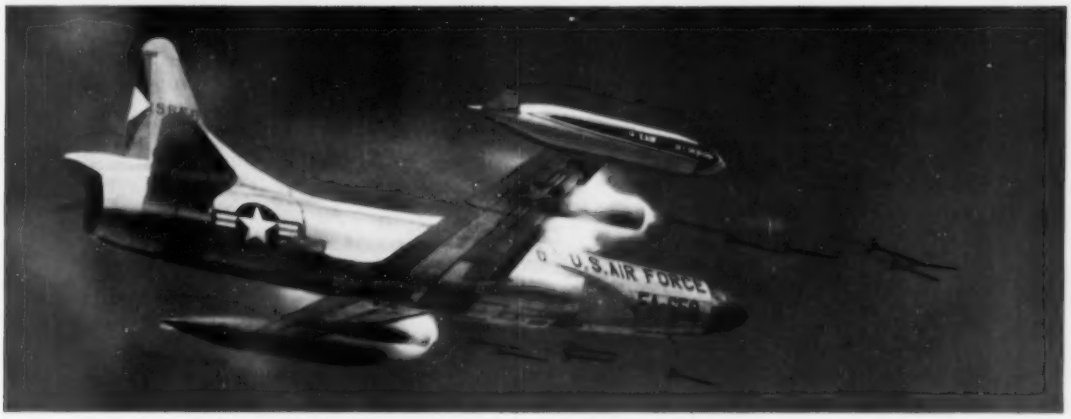

LEFT—EARLY-WARNING RADAR PATROL. Designated the WV-2 by U.S. Navy and EC-121 by USAF, these radar-domed Lockheed Super Constellations carry six tons of electronics and a 31-man crew. Super Constellations are ideal for this duty because of their famed all-weather stability and extremely long range.

ABOVE—ROCKET-FIRING STARFIRE INTERCEPTOR. First of the almost-automatic all-weather interceptors, the Lockheed F-94C Starfire is an example of Lockheed's leadership in the design and development of airborne electronics. This deadly defender and other interceptors will soon be supplemented by—

Farsighted Pentagon planning and recent amazing technological developments by U.S. science and industry are rapidly making our nation's TOTAL DEFENSE system the most formidable in all history.

Lockheed's role in implementing our new Weapons System concept and in Systems management, is an important one. Thousands of Lockheed military aircraft, of *nine* widely different types, are already in service. Other advanced planes, missiles and electronic guidance devices are in production, undergoing tests or on the drawing boards at Lockheed. And Lockheed's pioneering leadership in design and development of airborne electronics will continue to contribute heavily to TOTAL DEFENSE.

STILL-SECRET F-104 SUPERSONIC JET FIGHTER. (Photo not yet released.) A high-ranking USAF officer said of the F-104: "This is a fighter pilot's dream. We feel confident that it is the fastest, highest-flying fighter in the air, anywhere."

THREE PHOTOS AT LEFT show crew members of Super Constellation early-warning plane at work. (Top) Navigator plotting a fix; (center) observers at radar consoles plotting altitude, speed and course of unidentified aircraft; (bottom) fighter-director charting position and path of approaching aircraft.

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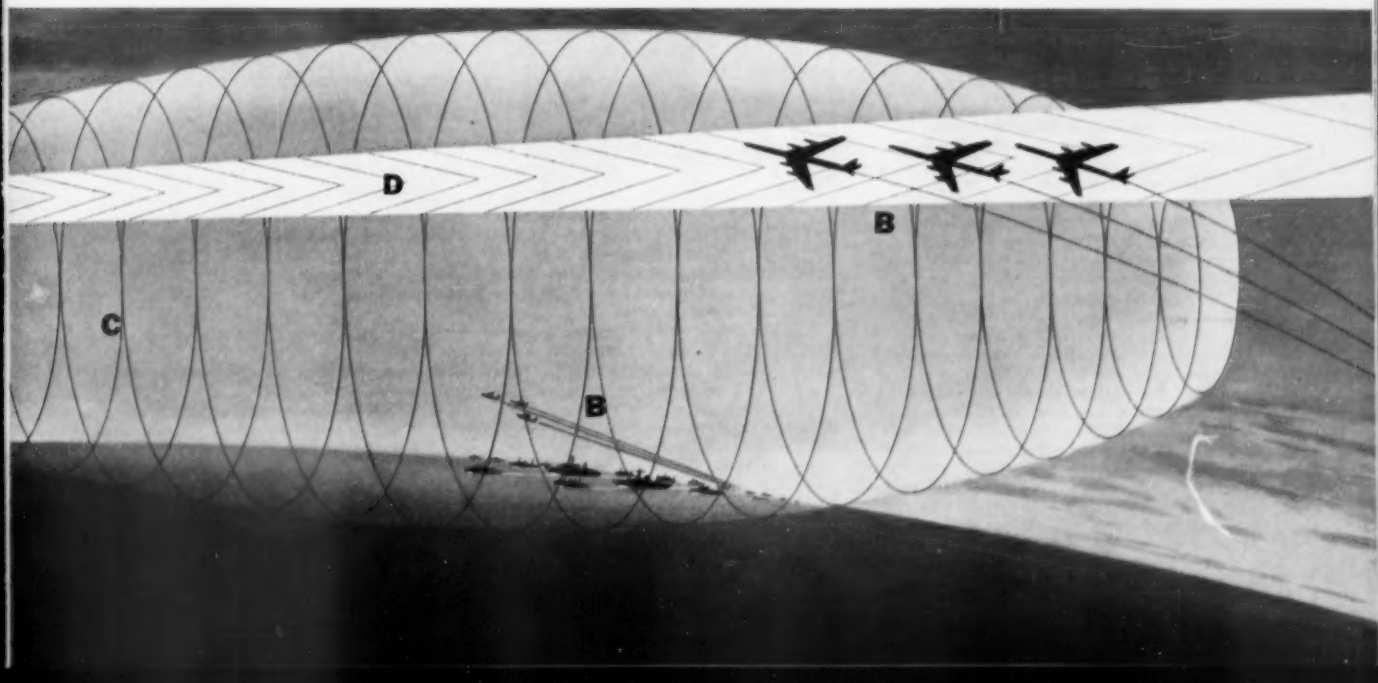
destroy the attackers with high-speed rockets or missiles. Any enemy aircraft penetrating our barrier patrol areas would be detected by shore-based radar stations (**F**) and Ground Observer Corps outposts continuously manned by patriotic civilians helping to keep our nation free.



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ARMY *is a professional military magazine devoted to the dissemination of information and ideas relating to the military art and science representing the interests of the entire Army.* ***ARMY*** *strives to—*

- Advance man's knowledge of warfare in the fields of strategy, tactics, logistics, operations, administration, weapons and weapons systems.
- Advance man's knowledge and understanding of the soldier as an individual, as a member of a trained unit, and as a member of the whole Army; emphasizing leadership, esprit, loyalty, and a high sense of duty.
- Disseminate knowledge of military history, especially articles that have application to current problems or foster tradition and create esprit.
- Explain the important and vital role of the United States Army in the Nation's defense and show that the Army is alert to the challenges of new weapons, machines, and methods.
- Advance the status of the soldier's profession.

(Adopted by the Executive Council of the Association of the U. S. Army, 21 June 1954)

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The Month's Cover

Army air mobility is strikingly portrayed in this lineup of H-21 helicopters of the 509th Transportation Company readying for a take-off from Davison Army Airfield at Fort Belvoir, Va. *U. S. Army Photo.*

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THE MONTH'S MAIL

Parents Have an Obligation

● I was happy to see you print in your March issue Major Banigan's grand letter with his positive thoughts on the new Reserve Forces Act.

I want to thank you for your policy of trying to place everything in its proper perspective. I have written Major Banigan to congratulate him on his fine letter.

You deserve a hearty round of applause for your marvelous magazine. My best wishes always to your staff.

MAJ. GEN. P. D. GINDER
Special Assistant for Reserve Components
Office of the Chief of Staff
Washington 25, D. C.

Even Distribution of Top Men

● I read General McAnsh's "Faith Moveth Mountains" in the January issue. The points on common type of training, pride in unit, absence of belly-aching, proper use of NCOs and austerity in organization are well taken and are essential in a good organization. However, certain of the other things recommended are at swords' points with one another; and one item, the test for courage, is unnecessary.

All of us know men who never jumped from a tower, but who day in and day out went up against the enemy and took their objectives. It is unfortunate that in our Army too many have come to confuse the courage required to jump out of an airplane with the courage to perform in battle. Our airborne divisions fought well, but surely not any better than many others.

As for superb physical conditioning, we should do better, but we must realize that in most units we are going to get a cross section of American men who cannot attain the degree of superb physical condition prescribed by General McAnsh. I recall that Kerstetter, the Medal of Honor winner in the 130th, was a 39-year-old cook who was not physically able to perform normal field duties, but who, when the rifle companies were down to fifty men, grabbed a rifle and took a hill that had defied a couple of different battalions for two weeks. Every company unit, except possibly a hand-picked unit, has a certain number of men who are not I Profiles but who are still good soldiers.

Finally, "excellent leadership." We need it desperately, but here is where the basic idea runs counter to what the author wants to accomplish. In describing the model he states, "They are a hand-picked outfit—all volunteers." We have hand-picked outfits, and a very few hurt any Army a great deal. These outfits get the most intelligent soldiers and the best physical specimens. Tests indicate this type of individual usually makes the best leader. When these splendid soldiers are placed in select units the Army is divided into "haves" and "have nots." The material that would provide the excellent leadership the Army needs at all levels, is concentrated in one place.

I have been back with a regiment for almost a year now, and the type of soldier described is desperately needed in all our units. As one of my company commanders said after reading this article: "That is all fine, but so long as they look with contempt on the soldier in the TOE outfit who has to do the dirty work, and continue to give me only what is left of the quality personnel to carry out my mission, then all of this means nothing."

COL. RIPPER
APO, New York, N. Y.

Air Capability Worldwide

● Secretary Brucker and General Taylor are giving the Army the leadership it vitally needs now, and are greatly responsible for increasing the morale and outlook of all thinking soldiers. Their simple statements on the mission and for a positive attitude toward its attainment are what every soldier needs to instill in him pride of accomplishment and satisfaction in service. **ARMY** magazine and the Association are gathering the Army into one family and crystallizing it into a cooperative team. What lesser title than **ARMY** could properly identify a magazine of such high quality and importance?

Colonel Bunker's "Why the Army Needs Wings" in the March issue comes closer to stating the Army's most vital need than any article yet to appear. However, he leaves two questions unanswered: when and how?

Now is the time to press for the creation of an Army Air Corps and to create the necessary machinery for putting it into existence.

As presently operated, the Army depends upon the Air Force for transport and support. The Air Force's preoccupation with its own mission has caused the development of aircraft for transport and

A Cessna friend "Upstairs" keeps them on the target

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support of Army forces to lag behind, so that today the Air Force has no suitable aircraft for direct ground support and is far behind in fulfilling the Army's transport requirements for payloads and operational adaptability.

As it now stands, the situation calls for immediate transfer of all cargo and troop carriers to the Army and the development of TOE front-line support aircraft. At the present rate of development, it is inconceivable that either air support or transport required will be available to give the Army adequate service in a full-scale war. Thus, the inevitable rapid development of events in case of war requires having available at the onset aircraft in sufficient numbers to gain decisive victory.

Besides its present arsenal of weapons, the Army needs to add the capability of long-range cargo and troop carriers to position forces strategically, and the capability of front-line air support and individual air movement to give it the mobility and fire power to carry the tactical situation. Development of these capabilities will truly give the Army a means to insure victory in any kind of war anywhere in the world—at any time.

LT. DANIEL J. MYERS
Fort Bragg, N. C.

Don't Take the Driver Off the Hook

● I disagree with Colonel Don Keyhoti's Cerebration in the February issue. Military police experience has taught us that too many military personnel do not operate Government-owned vehicles with the same care they extend to their own. Quite often, when I questioned a driver who had been involved in an accident I was told: "Well, Uncle owns this one, and he's got lots of dough!"

The certainty that involvement in an accident will hit the driver's pocketbook is a strong deterrent. When the word gets around to all that careless driving will cost them *their* money, and that disciplinary action will follow, it brings many of our military hotrodders to their senses.

I know that there are very many fine drivers among our soldiers. The majority are careful and practice the art of defensive driving, and do not worry about their pocketbooks. But as for others, the statistics in safety offices will thoroughly impress you with the need for drastic action to curtail accidents.

The author states that "most accidents could be prevented." I believe that *all* accidents can be prevented, if everyone drives properly maintained vehicles at reasonable speeds. Reasonable speeds are often less than half the figure posted, because of weather, road conditions, troop movements, and so on.

Finally, if financial liability were not tied to traffic accidents, why, by the same reasoning, should it be affixed under other circumstances, such as carelessness in losing a compass, a weapon, or other item? No, don't take the driver off the hook.

CAPT. KARL H. VAN D'ELDEN
Hq AFFE/8A (Rear)
APO 343, S. F., Calif.

● *As readers will recall, Colonel Don Keyhoti didn't advocate letting careless drivers off scot free. He argued that punishment should be separate from damages to vehicles.*

Early Rocket Research

● Except for one word at one point in "Guided Missiles" in the March issue, strong contention welled in me. The sentence: "Army research and development agencies and the Army Ordnance Corps have devoted major efforts to guided missiles in recent years." The word: "major."

Let's not overlook the labors in the field of rocketry by Colonel L. A. Skinner, Ordnance Corps, at Aberdeen just short of a quarter century ago. His efforts facilitated later rocket and missile research expansion at APG.

So let's also bestow a line of commendation upon a man who did plenty of hard work, gleaned many of his formulas from experimentation, and furnished the guide lines—payoff guide lines at that—for early rocket and missile development in the United States.

CAPT. A. J. SIRACUSE
Hq 6021 SU
Fort Lewis, Wash.

The 1946-47 Integration

● The letter by Colonel Query in the March issue cites an unusual incident as the possible reason why so many excellent officers were passed over in the 1946-47 RA integration. Those who witnessed that integration know there were several factors which might have contributed to the result mentioned by Colonel Query. It is not as he states, nor is it as common as he would lead us to believe. Here are the real facts:

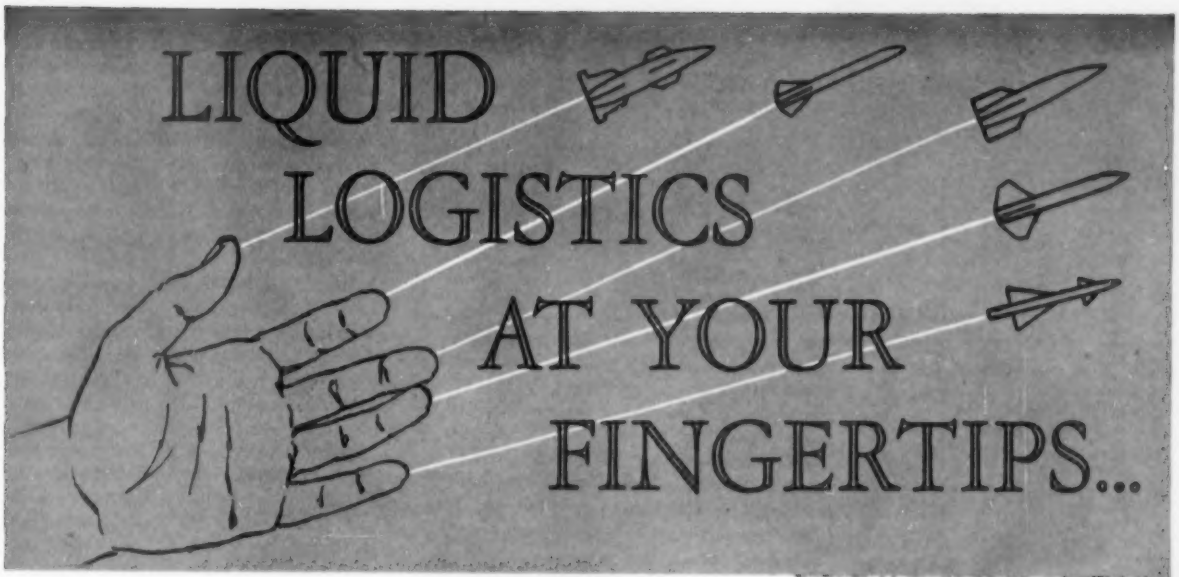
Some were downgraded by officers whose names were submitted as references by the applicants.

Selection boards, formed by the various arms and services, often set peculiar standards for selection. Perhaps the choices an applicant expressed were voided, whereas another branch not applied for would have accepted him.

A few could not meet the physical standards.

The biographical test was a new experience to most people, and caused testing difficulties. Some officers tried to guess the approved solution instead of answering intelligently and truthfully. Consequently, they found themselves in a hopeless snag toward the end of the test.

Many fine officers had served during the war in branch immaterial jobs, and so had no arm or service of origin. Would



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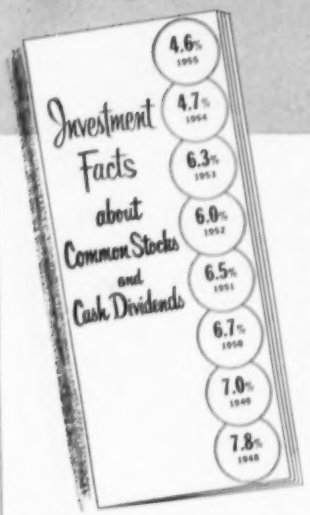

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the Infantry select the officer with intelligence experience? Hardly, because he failed to meet the specific experience and qualities demanded for infantry service. AGC? Not likely, because of lack of knowledge in that field. So it went.

Some branches like AGC had tremendous selectivity because of the large number of applications for a few vacancies, whereas other services had few applications for vacancies, with poor selectivity as a result.

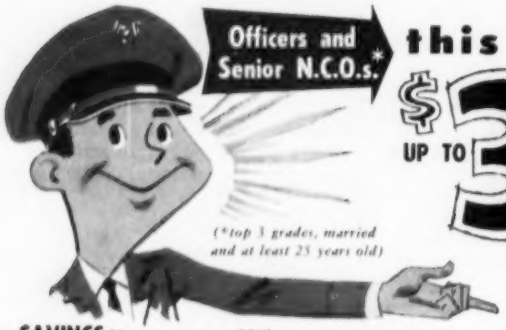
Integration was accomplished on the basis of a composite numerical score which the applicant achieved largely through his own efforts. If he fell beneath the acceptable DA score level, he was not available for selection no matter how good he might have been.

What happened in the integration was no more unusual than what happens in other competitions. Although perhaps there are grounds for some constructive criticism, the results do not reflect adversely on the methods used. Certainly the system should not be the victim of bold insinuations by uninformed people.

LT. COL. REPLY

Pipers, Plaids and Automation

• Major Baird's article about the propriety of wearing plaids [March] is as valid as any other objection to the unauthorized use of insignia, uniform, and so on. However, couldn't pipers who are



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of the proper tribe wear the plaid of same?

The Irish have a kilt outfit also, generally in solid color, so that if the guy's name is O'Toole, he could dress up Irish style, and the MacTavishes could wear their own rig. That leaves us up in the air about the Gomezes and Svensons, in case any of *them* get in the act. Perhaps they could be sworn in as honorary Caledonians.

A possible solution might be the use of Union blue or Confederate gray, because Meagher's Irish Brigade and Pat Cleburne went in for such during that war we had among ourselves. I'm not sure of Meagher, but it is for sure that Cleburne had pipers.

The 1st Cavalry Division could have pipers decked out as Custer's troops, because the 7th Cavalry had a couple of Irishmen who played the antipersonnel wind instrument during dawn attacks on Indian camps. Maybe that is why the Sioux made such a clean sweep—they didn't appreciate good music.

Regardless of ancestral duds, it helps to have bands in distinctive outfits. Bad cess to the day when we have to employ jeep-mounted record players. Automation can be carried too danged far.

WO JOHN P. CONLON

52 Columbia St
Newark, Ohio

Poppycock!

The all-out attack on the food service empire begun by Major Conner in his February Cerebration is indeed heartening to those who have never completely accepted the need for such monstrous creations. The defenders of food service, TI&E, PIO, Cost Consciousness Committees, Character Guidance Councils and similar aberrations tell us these empires are vital to modern armies; that experts and large staffs are part of the globaljetatomic age; and that top-level programming by specialists is preferable to the quaint fumbling of commanding officers. Poppycock!

Let's list some results of empire which do not appear under "Goals Achieved, FY—." Those of food service have already been well handled in Major Conner's Cerebration. The greatest accomplishment of Cost Consciousness has been the achievement of hiding most Army equipment under a blanket of stickers which indicate the unit cost. Invariably, S4 charges more.

TI&E can be blamed for the decline and fall of the dayroom, which has become a maze of maps, globes and colored ribbons—all dangerous to the honest pool players who have been driven out. Should some perverse soldier actually try to enter, he'll have little luck, for the dayroom is being inspected or is closed awaiting inspection.

PIO has infused the Army with a combination of press-agentry and Madison Avenue advertising. The post newspapers now contain little except photos of the post commander, social notes, and announcements of presentation of awards to The Soldier of the Week, The Wac of the Month, The MP of the Year, and so on.

Character Guidance strikes deepest. It usurps the most important peacetime responsibility of a CO, and is indicted by its title.

These empires have failed by the one true measure: the preparation of the Army for war.

Suggestions? These measures may be taken at appropriate levels, even though the final remedy depends upon action at the top:

¶ There are few activities that cannot be properly handled by the staff. Committees are unnecessary.

¶ Commanders should carefully control the orders issued by their headquarters and prohibit those that go out as newsletters, digests and suggestions.

¶ The training of a soldier is total, and cannot be sharply compartmented into tactics, weapons, and the Chaplain's Hour. Indoctrination should be intensive and continuous, and the only real goal is a disciplined fighting man.

¶ We have no right to lecture soldiers on the history of Graustark when they are not even decently familiar with the history of the United States. Let's use the I&E hour to tell them about Rogers' Rangers, the marches on Quebec and Saratoga, and the cornfield at Antietam.

¶ Replace trashy posters with scenes of heroism in American military history. Remove the price tags and displays. Army offices and equipment are entitled to dignity.

¶ Finally, let's keep in mind Moltke's saying that large staff organizations are a sure sign of bad armies.

CAPTAIN REACTIONARY

• *Bad humored letters like this one demolish themselves by overemphasis. Certainly these programs can be overdone, but if Captain Reactionary (he told us his real name) will calm down a bit we think he'll acknowledge that very few dayrooms, for example, are really as cluttered with TI&E material as he says. (We've seen dayrooms with nothing but a couple of battered chairs but we didn't damn all dayrooms for that reason, because we have seen others that outdid the Waldorf-Astoria for comfort and taste in decor.) We normally don't publish this kind of B-bag letter, but make this exception as an experiment in the therapeutics of printer's ink.*

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BLOOMFIELD, CONN.

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The Challenge

GENERAL MAXWELL D. TAYLOR

WE should all rejoice that the [Military] Academy is constantly moving forward. It must do so if it is to meet the increased requirements of military leadership. As I go about the country as Chief of Staff, I frequently discuss this matter of the expanding horizons of professional soldiers. In this period of transition in warfare, where the introduction of atomic weapons and delivery systems of great depth and flexibility is changing concepts of tactics and strategy—in such a time of change the requirements imposed upon our military leaders are constantly expanding. Today, as always, a successful leader must have broad professional competence, deep understanding of men, high integrity and strong character. But the elements comprising these attributes of leadership are changing with the times.

In commenting on the mounting requirements for professional competence in the military Services, Dr. Conant, when he was President of Harvard, once stated: "As I look over the fence at the task which confronts our military men, I am appalled by the job. In purely technical terms, to plan the production and use of weapons not yet developed and to anticipate with any certainty the technical progress of a potential enemy in a rapidly moving area, seems almost humanly impossible. I should like to record my deepest sympathy for those who will be charged with the responsibility for the defense of the country in the period which lies ahead."

The Army looks to West Point to lay the scientific foundations for the careers of our future leaders who prepare themselves to discharge this responsibility for the future defense of our country. It may be fairly said that the slide rule will be a more adequate symbol of the Army of the future than the sword. No successful leader can be without some comprehension of the language of science if he is to be capable of enlisting our scientific and engineering resources in support of his tactical and strategic requirements.

BUT we can overstate the importance of the technological aspects of the military profession. Our military leaders will be inadequate if they have scientific knowledge alone. They must be students of warfare, with an imagination capable of projecting forward the principles of the past to the specific requirements of new situations. They must be able to visualize the effects of new weapons and to pattern tactics and organizations appropriate to the battlefields of the future. All this will require work and sweat and endless devotion to duty. In the section rooms and in the lecture halls of West Point, our cadets must acquire habits of work and study which are essential equipment in the exacting career which they will follow.

Our cadets will not be completely prepared if they are merely scientists and scholars and students. They cannot be without a certain knowledge of the hard facts of economic life, because dollars and materials will be the stuff of their future lives. No longer can a soldier be without some business judgment and appreciation of the contribution to security of a sound national economy. No soldier worthy of the name will sponsor undue strain in time of peace. The Army runs manufacturing plants, depots, ports, transportation systems. It is involved one way or another in almost every form of industrial activity. It has capital assets worth over $52 billion. Thus, the Military Academy can not limit its teachings to tactics and strategy in the use of weapons, but must also give a basic concept of such subjects as industrial mobilization, manufacturing methods, and production problems. In fact, the studies of the cadets cannot ignore any of the essential elements of the national economy.

But West Point cannot think only in terms of preparing young men for the fields of science, for the combat roles of the Army, and for the economic problems of national defense. We can predict that our cadets will live much time abroad, serving in unusual situations for which they have not been directly prepared. At present, the Army has military missions in 44 countries of the world, where their members are required to speak foreign languages, to know foreign history, to understand foreign psychology, and to be able to represent the United States with ability in trying and complicated situations. It is with reason that the curriculum at West Point stresses Foreign Languages and International Relations to an outstanding degree.

AN adequate military education does not consist exclusively of intellectual exercises. Knowledge itself is not sufficient for the complete military leader. Knowledge can be cold and sterile, unproductive of the stimuli that drive men to victory in battle. Thus it is that West Point properly emphasizes the moral aspects of leadership, recognizing that no leader has ever reached true greatness unless he has the gift of deep understanding of the men who, in the last analysis, are the absolute weapon of war. Instruction at West Point in leadership is oriented primarily toward leading the citizen-soldier—a wise provision, since American armies in the past have always been formed largely from civilians. It is toward their leadership that all of our Army methods of instruction, training, and conditioning must be directed.

* * *

FINALLY, I would stress the urgency of the West Point mission in developing leaders for the modern Army. Never

Drawn from an address at the Founders' Day Dinner, West Point Society of New York, 17 March 1956

# of West Point

before in our history has such responsibility been placed in the hands of military men as at present. For this reason, never has there been greater need for men of integrity, selfless men without ambition, disdaining political advantage and personal preferment. Only such men of character can make their voices heard at the council tables of our nation, where sound and responsible military views are so important in guiding our national policy. In the last analysis, the requirement for character in our military leaders arises from the awfulness of the weapons which they now control. Only men of the highest principles and standards of conduct should be allowed to make these decisions which may involve the destiny of all mankind. Thus, the influence of West Point has renewed importance in discharging its secular role of developing men of character and reliability as a fundamental objective of its educational system.

As I view the future needs of the Army, I am impressed with the growing requirement for West Point graduates and for men imbued with the principles taught at West Point. At the present time, out of the officer corps of 110,000 in the Active Army, only six percent are West Point graduates. This proportion is definitely not enough; and I would sincerely hope that, by a prudently phased increase of the facilities at West Point, the size of the Corps can be somewhat increased. I consider that any expansion must be a moderate one, feeling that quality is always more important than quantity, and that over-saturation of the present area might well lead to some deterioration in the product.

I speak about the need for additional West Pointers, thoroughly aware of the fact that the West Point career is far from being the only way of producing good officers. The Army is filled with too many outstanding non-graduates to suggest that the West Point formula is the only one. Personally, I would never want an Army which did not have a very high admixture of officers from non-West Point sources. One of the strengths of our officer corps is the heterogeneous nature of its origin, in which many strains, all containing valuable ingredients, add to the strength of the Army.

* * *

I WOULD close by emphasizing that West Point will never be better than the quality of the young men who year after year enter its ranks. All of us old grads should be bold, vigorous, and frank proselyters on West Point, urging young men of ability to seek a career in the Army. . . . Let us old grads do our part in guiding promising young men to an Army career, knowing that our *alma mater* will receive them, shape them—yes, inspire them—even as West Point has done for you and me.

Today's West Point cadet moves into the future amid the tranquil beauties of the past. This old photograph shows the West Academic building as it was only a few years after General Taylor was a student within its gray walls

'Tens of Thousands of Small Bombs'

DURING a month in which gunfire between Egyptian and Israeli soldiery showed that men and nations could be led to the brink of open warfare, despite the existence of a weapon that can destroy mankind, the U. S. Army revealed that it has plans for creating a modern atomic-age army and can develop it as fast as policymakers will permit.

The evidence of this was in the skeletal report of the form of organization and weaponry of the soon-to-be-reactivated 101st Airborne Division, in the continuing emphasis by Mr. Brucker and General Taylor on the Army's need for strategic and tactical air mobility, in the development of Project Mass, a soon-to-be-inaugurated system for the fast movement of supplies to the Seventh Army and supporting forces in Europe, and finally in the strong statement by Mr. Thomas E. Murray, one of the Commissioners of the Atomic Energy Commission, advocating the immediate production of "tens of thousands" of "very small" nuclear weapons.

In the long perspective Mr. Murray's statement could be the most significant for the Army and for the world. Advancing the thought that wars should be limited to a "rational scale," Mr. Murray said: "I am altogether opposed to any school of thought that would move on toward weapons of ever-increasing magnitude, while at the same time disclaiming the intention of using them. This position is unrealistic. Under the stress of a threat to its survival a nation will use any weapon it has in hand, however recklessly, if there is any seeming advantage in its use."

Size and moral principle

"I would add," Mr. Murray said, "that when a full military theory with regard to a moderate and discriminating use of nuclear weapons has been evolved in the light of moral principle, the conclusion might be that the bombs we presently have are already too large."

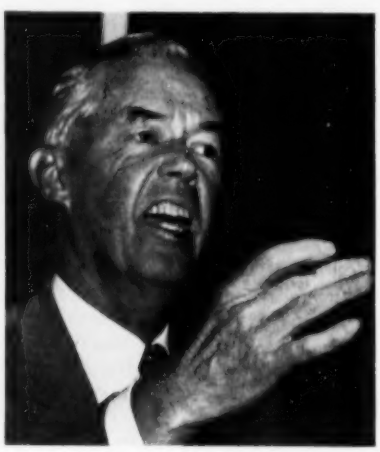
"I have said," he continued, "that limited nuclear war is a possibility that the moral conscience can face and accept. It is also a possibility inherent in the present state of international tensions. When I speak of 'small' weapons, I mean very small weapons. When I speak of 'large numbers' I mean tens of thousands of weapons in this range. These tens of thousands could form a broad and solid base upon which could be superimposed a stockpile in the image of a pyramid of intermediate and large-size weapons.

"A stockpile of this composition will support a theory of moderate and discriminating use of force against all aggression, including aggression that may be minor in degree."

Small Bombs and Mobile Army Forces

On page 38 of this issue we present a soldier's view of what are the most useful sizes of these "tens of thousands" of small atomic weapons. He speaks of atomic bombs of two and ten kilotons of power as being most useful to the soldier. The article is timely and it will serve to kindle the interest and attention of all men in uniform in the Army's atomic weapons system.

In a related article in the 19 April issue of *The Reporter*, A. T. Hadley developed the possibilities of small-yield atomic weapons, and discussed the advantages of mobile Army task forces equipped with such weapons for use in all parts of the world.



Thomas E. Murray
Small nuclear weapons by the tens of thousands

After showing that "present American atomic weapons are too imprecise and too destructive to be much use in a really 'limited' war," Hadley writes:

"To destroy enemy targets without knocking out an area the size of Louisiana, the military is currently developing atomic weapons of from 4 to 10 kilotons' power for battlefield use. These are the 'low-yield' atomic weapons in which all the fissionable material and gadgetry necessary to produce an atomic explosion is packed into a sphere about the size of a lumpy softball. . . .

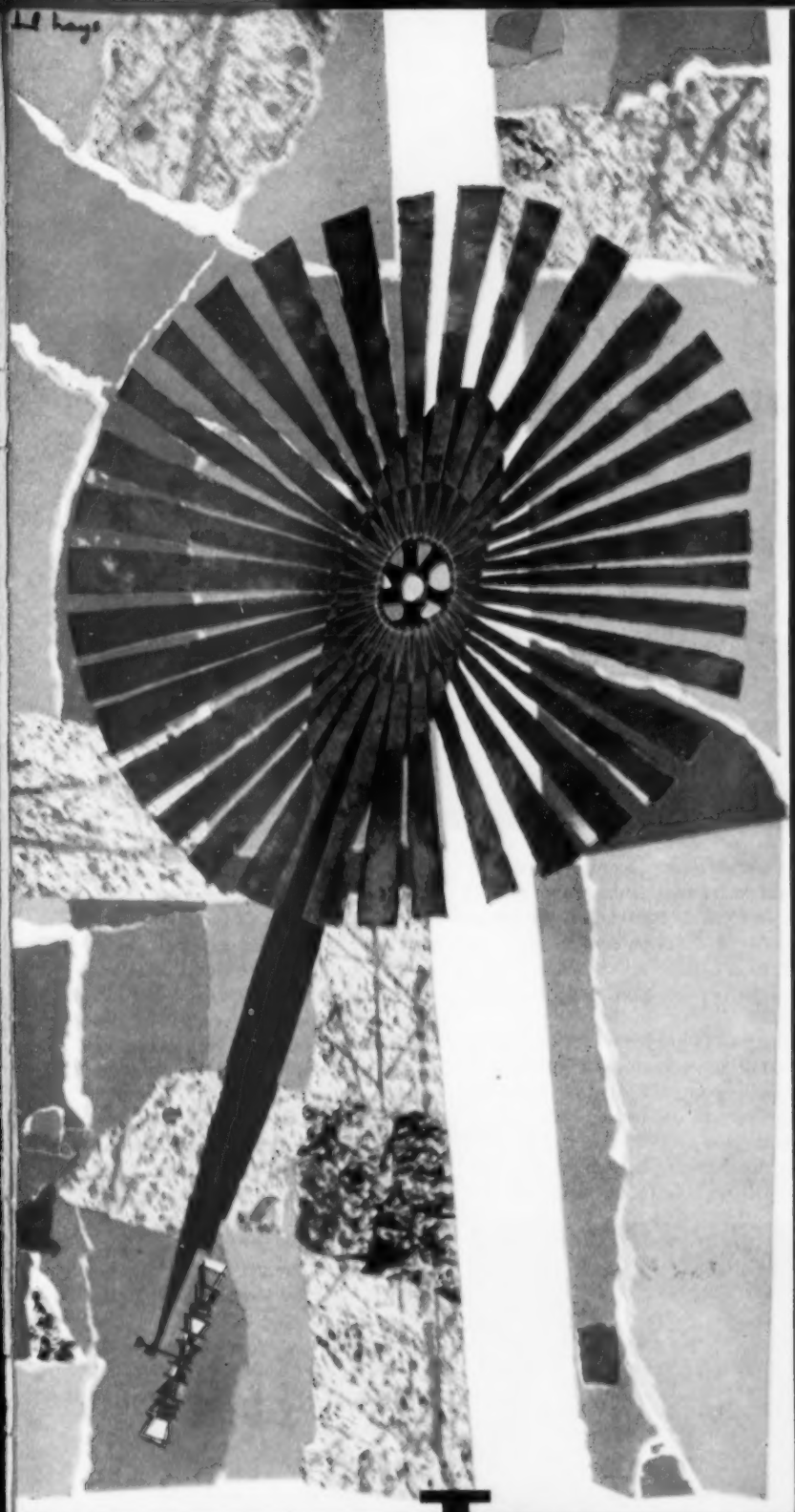
"These new low-yield atomic weapons are designed to be used primarily against enemy troops on the battlefield. They are accurate and highly mobile, and their explosive power is distinctly limited. Furthermore, there is almost no fallout from them since they are engineered not to suck up a great deal of dust and debris from the ground into a radioactive cloud. Troops could battle through a city the size of Worcester, Massachusetts, or Des Moines, Iowa, using such weapons, and large parts of the city would survive.

Limited funds reduce production

"So far these low-yield weapons have been developed by the Army with severely limited funds. But if the present program is not cut back, some of them could be in production by next January.

"The most interesting of the group is the Sidewinder. This is a hand-carried Army atomic missile, rather like an oversized bazooka, that can be used by an infantry squad. The Moritzer, a completely mobile mortar mounted on a light tank chassis and firing an atomic shell, provides slightly heavier atomic fire support. Finally, for really hit-and-run 'sky cavalry' operation the Army has designed a helicopter-mounted 155mm recoilless rifle firing an atomic shell. . . .

"The increased power of low-yield



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TODAY'S MILITARY SERVICES, WITH THEIR TREMENDOUS TECHNOLOGICAL ADVANCES MADE POSSIBLE THROUGH SCIENCE, OFFER A VITAL REWARDING CAREER

weapons reduces the number of men needed to a small ready force that could be moved by air. These, it is believed, could permit the United States to meet localized aggression rapidly and successfully.

How much and how spent?

But what would these weapons cost? Counting the cost is not made easier by the fact that low-yield weapons make many of today's 'tactical' weapons obsolete. . . .

"Various official groups have wrestled with the cost of creating a force able to fight limited atomic wars. Their estimates vary according to how much they 'make do' with old equipment. During his last months at the White House, Nelson Rockefeller had an all-government team of experts probe the problem. Parts of Army G3 as well as the office of the Chief of Naval Operations have worked up estimates. One recent staff study put the creation and maintenance of a fire brigade for limited atomic war at $2 billion a year more than the country now spends on defense.

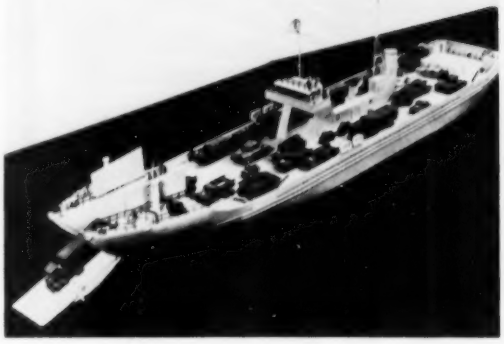
"According to this estimate, the $2 billion would be spent in three broad areas: military units, strategic transport and special weapons, and technical equipment. In the category of military units, three mobile [airborne] task forces of between eleven thousand and fifteen thousand men each are envisaged. The increased fire power of atomic weapons would permit these task forces to employ fewer men than the conventional eighteen-thousand-man division while doing a bigger job. Just how many fewer remains to be determined on maneuvers—with much of the testing being done by the 101st Airborne Division, [to be] remodeled as an 11,500-man unit.

"Of the three task forces, one would be based in the Middle East, and would be capable of acting in Europe also; one would be in the Far East; and one would be held in America as a replacement force. Unlike the present airborne divisions, which lack mobility once they have parachuted in, the new forces would be modeled on highly mobile 'sky cavalry' tested by the Army during Sagebrush."

New Look in Airborne Divisions

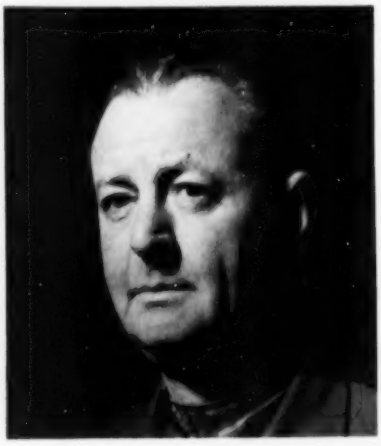
When Major General Thomas L. Sherburne, Jr., reactivates the 101st Airborne later this year many of the new weapons and vehicles that have been under development for the past several years will make their appearance in tactical organizations that have been newly developed under concepts pursued at the service schools and tested in part at Sagebrush and elsewhere.

Howling Arctic winds buffeted paratroopers of a battalion combat team from the 82d Airborne Division that made a jump near Thule, Greenland



New Beach Discharge Lighter developed by Army Transportation Corps and Navy will deliver loaded vehicles directly from the Military Sea Transport Services' roll-on-roll-off ship to the beaches

The goal is to give the 101st a high degree of strategic and tactical mobility. It will be organized into five combat groups of five companies each, plus a support group of service and supply elements. On the battlefield the division will be able to hit hard and run fast or, if on the defensive, to set up a strong "square" perimeter with a combat group at each "corner" plus the fifth in reserve in the center.



Maj. Gen. John L. Ryan, Jr.
New Commandant of the Armor School

The strength of the division will be 11,500, probably the smallest TOE division the Army has ever fielded. But even without tanks—it will have none so as to be completely air transportable—the division will pack an enormous amount of fire power. In place of tanks it will have the air transportable, self-propelled antitank 90mm gun. Its artillery will include organic Honest John rocket batteries and other new artillery pieces, all air transportable. It will rely on the lightweight "mechanical mule" for transportation. Its communications will include the new family of lightweight radios with longer range and its communications will be patterned after the grid system developed by the Signal Corps.

Air Mobility: Strategic and Tactical

The fact that the new 101st can be entirely air-lifted by about half as many transport aircraft as are required to lift the present 82d Airborne Division gives it far more potential strategic mobility than any comparable fighting

(Continued on page 43)

A New Name

Piasecki Helicopter Corporation has changed its name to

VERTOL Aircraft Corporation

We have changed our name to better reflect the full range of our current activities and future operations.

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VERTOL Aircraft Corporation

MORTON, PENNSYLVANIA

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*The name *Vertol* is a contraction of the words VERtical Take Off and Landing.

OLD OUTFITS NEED *NOT*

A NUCLEAR Age U. S. Army is emerging from the drawing boards and taking shape in field tests and maneuvers. There is talk of more flexible divisions, composed of battle groups of the combined arms. There is talk that the price of modernization and progress will be the disappearance of autonomous fighting units. Is this true? Will the Army find it necessary to break up its traditional units, with their long, proud history and their indomitable *esprit de corps*?

It is not necessary. To avoid such an unhappy result, a concept is under study in the Pentagon, which visualizes the establishment of a system that will maintain the continuity of our most distinguished units, regardless of tactical organization, in peace and war. This article will discuss the underlying considerations and the general idea of how this proposed system would work.

The problem for which a solution is being sought is broader than making old designations fit new tactical organizations. We are also concerned with the fact that the Army has never had a satisfactory means of insuring that a unit would stay in business during the periods of retrenchment between wars. The whole 5th Infantry Division was inactivated in 1946, and did not regain its franchise as a combat outfit until 1954. The 6th Infantry Division was inactivated in Korea in 1949. Since then, it has been active only in a technical sense, as a training center headquarters, but even this has ended.

Each time an old outfit is inactivated, the Pentagon is bombarded with protests—from corporals up to four-star generals. The people who do the inactivating are just as unhappy about it as anyone else. The plain fact is that, under our existing system of unit designations, inactivation of units is unavoidable when Army strength goes down, unless we accept the obvious disadvantage of allowing units to dwindle into skeletons. Even when the overall strength level remains the same, there may be a requirement to inactivate one type of unit to make room for more units of some other type.

We can approach the problem on a basic level by stating two related questions:

¶ Are traditional Army unit designations compatible with modern weapons and organization?

¶ Can continuity of our most distinguished units be maintained in peace as well as war?

The odds are that the answer to both of these questions will be a resounding Yes.

UNIT designations are just like the names of people or places. John *Smith* doesn't change his name if he is employed as teller in a bank. *New York* is not so new any more, and hardly anyone has trouble distinguishing it from "old" York, but it makes sense to leave the name the way it is.

Names of military outfits ought to be left alone too.

No useful purpose would be served by adoption of designations such as Umpty-Umpth Mobile Battle Group. However descriptive such a term might be, it would be less suitable than one of the designations we already have. The 1st Infantry Regiment, for example, has an old, honored name. That name, and others like it, belong just as much in an ultra-modern Army as they did in the Army of a century or more ago.

In our Army, the *number* of a unit is an integral part of its proper name. There is no justification, from the soldier's point of view, for changing the number of his outfit to make it fit into a block system of serial numbers, yet this is precisely what has been done in

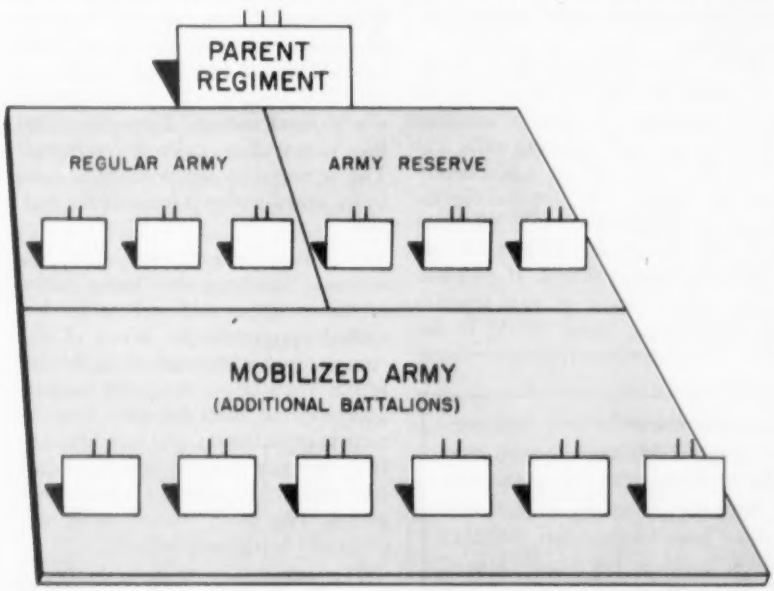
Ever since it became known that one of the first casualties of the atomic-age army would be the regiment as we have known it, there have been cries of protest and a search for ways to retain the regimental structure. This magazine has published many articles, Cerebrations and letters on the subject. Now we are proud to present an article that reflects the present thinking of the Department of the Army General Staff. This article is not an official document and it presents only a concept, not a final solution. *ARMY* magazine knows that Mr. Brucker and General Taylor and all the General Staff would welcome comment on the concept. Therefore it invites its readers to speak up on the subject. We will publish those we believe meritorious and we will make all of them available to the General Staff for study.

FADE AWAY

LIEUTENANT COLONEL ELMER SCHMIERER

some cases. The 327th Infantry, for example, which fought in World Wars I and II, was renumbered as the 516th Airborne Infantry in 1948. The 516th had never existed prior to that time. Fortunately, this error will soon be corrected.

THE word "infantry" still serves admirably to describe the arm of close combat, even though its weapons and organization have changed considerably during the centuries since the French applied it to the foot soldiers accompanying the mounted knight. Another French name, *leur artillerie*, for the effective crossbowmen at Crécy in 1346, seems to have a broad enough meaning by this time to connote any sort of projectile from rocks to Honest John's grandchildren. "Cavalry" refers to the mounted, mobile soldier, and it is at least arguable that his mount is not necessarily a horse. Or for that matter, a tank.



The regiment would be the patriarch of the family, an enduring symbol of its continuous existence and the caretaker of the regiment's history, traditions and customs. Its subordinate battalions, no matter how many, would spring from it and share its heritage

Precedent also supports a liberal definition of the words denoting Army tactical organizations, such as "regiment" and "battalion." They have no inherent size or structure. American regiments have varied in strength from about 500 men to more than 3,500. Rather than coin a new name for a new type of "battle group," of whatever size or structure, the familiar "battalion" or "regiment" is adequate, suitable, and certainly more desirable.

It seems clear that the old designations, which have been the birthright of our units during the U. S. Army's development over the past 180 years, will serve their purpose equally well in the

future. It would be a grievous mistake to stow away the old colors and battle streamers and start all over again, just because we have some new machinery for throwing lead around the landscape.

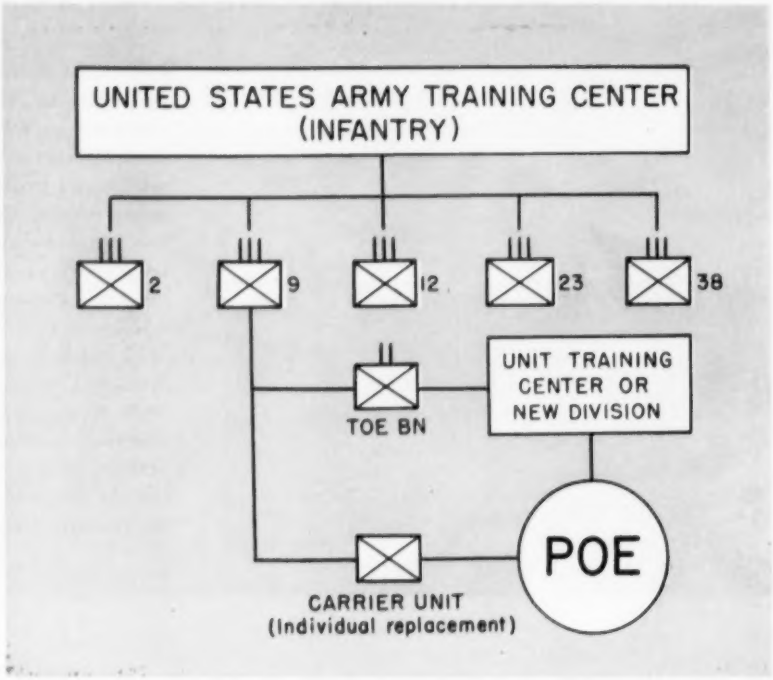
WE come to the second question: Can we give these units *continuity*? To begin with, we know we have not succeeded in this in the past. The genealogy of many of our old units is a woefully tangled affair. They have been disbanded, combined, renumbered, broken up, inactivated, and somehow they have been sorted out again and reformed to fight the nation's wars.

We want to give continuity to the unit in which the soldier serves and fights. If possible, we want his unit to live on after demobilization, so that in the next expansion of the Army the citizen soldier joins a meaningful unit. Past experience shows that continuity is the most important ingredient in the preservation of unit history.

The obvious difficulty is that we must conform to wide fluctuations in the Army's strength. So long as we work with units of fairly constant size, we must vary the number we have on board at any given time. If we are to keep the *number* of organizations constant, we must find a way to vary their *size*.

First let us settle on the organizational level at which this might be attempted.

How about the division? A relatively new organization in our army, the division today is the significant large fighting unit. Since World War II, the names of divisions have been well known, and each has its own traditions and *esprit*. To the line soldier, however, division headquarters is pretty far off. He "belongs" in his squad, platoon and company—and it is his battalion or regiment which holds the outfit together. Of larger note is the fact that only part of our soldiers are members of divisions. Among combat units alone—infantry, armor, and artillery, taken together—more than half are nondivisional.



The homes of the regiments would be at U. S. Army training centers (in the case depicted here an *Infantry* training center). The regiment would ship out battalions for further training or assignment to a combat division, or individual replacements designated to fill the ranks of battalions of the regiment already committed.

The number, type and composition of divisions are dictated by strategic and tactical requirements. We could not expect to impose the arbitrary factor of continuity as the basis for keeping divisions active.

In an army organized largely of self-contained battalions, should we attempt *battalion* continuity? Battalions are the smallest color-bearing units, and are "closer" to the soldier. Again, battalions are tactical; their size and organization are governed by a TOE. How many battalions, and what kind, are subject to constant change. If each battalion were to have its own separate unit designation, there would be far from enough traditional designations to go around, and some units would have numbers running into four digits. Numbers of that sort are bad enough for the ASUs; their imposition on color-bearing combat units would be a travesty.

SUPPOSING that we found an organization which is not inhibited by tactical considerations. Could we vary its composition and size in proportion to Army strength fluctuations, and thus keep it alive under all conditions? The organization which could be most easily suited to this purpose is the *regiment*.

Traditionally in the U. S. Army, the regiment has been the "home outfit" of the American soldier. It is the historical repository for many of the Army's finest achievements. In the past fifteen years or so, regiments have, to a large extent, been discarded from the tactical organization, and now exist only in infantry (except armored infantry) and a few armored cavalry regiments. The trend toward more self-contained battalions continues.

The system under study in the Pentagon is based on the regiment. It is a long-range measure, and embraces all components of the Army. Beginning with the combat arms, it visualizes pos-

Lieutenant Colonel Elmer Schmierer, Infantry, was commissioned in the Regular Army in 1942 after entering as a Reserve officer in 1940. During World War II he served with the 99th Division in ETO. Since then he has served tours with the 3d Infantry Division, Third Army headquarters, JUSMAG in the Philippines, and on the faculty of The Infantry School. He is now assigned to the office of the Deputy Chief of Staff for Personnel. Colonel Schmierer earned a BS in journalism from South Dakota State College (1938), is a graduate of Leavenworth (1943) and the Armed Forces Staff College (1953).

sible extension to other branches. The merits of the plan have yet to be explored in careful study, and there is, of course, the possibility that someone will come up with a wholly different and better idea, or that the plan will be considerably changed even if it is adopted. At any rate, the concept serves as a starting point to tackle this problem of continuity of our most distinguished units.

The plan proposes that the histories of all the Army's combat units of the past be "consolidated" in a specified number of permanently established infantry, cavalry, armor and artillery regiments. These regiments themselves would not be tactical, but each regiment would have a variable number of member tactical units. Each combat battalion in the Army now and in the future would be a member of a parent regiment. Each battalion would be assigned to a division or other tactical command, as at present.

AS shown schematically by the chart on page 21, the regiment would be elevated to a form and role unlike the regiments we have known; it would become an institution from which units spring. Some of its member units would actually be manned only during mobilization, but all would share in the heritage of the regiment, its history, its customs and traditions. Continuous existence of the regiment would enhance these values, which transcend the changes in Army tactical organization. The regiment would be a constant symbol, which identifies the soldier and his buddies and fosters *esprit de corps* in his tactical unit.

Parent regiments would be of two types: Regular Army and National Guard. They would be the most distinguished regiments in the Army's history, taking their age, campaigns, and battle honors into account. The number of Regular Army regiments established would number approximately 191, divided among the arms as follows:

Infantry	62
Cavalry and Armor	32
Field Artillery	62
Antiaircraft Artillery	35

Each state and territory would have its own National Guard regiments, as required.

AT the current strength of the Army, each Regular Army regiment would have approximately three member battalions in the active army, and would have two or three additional battalions in the Army Reserve. In wartime, when the Army reaches its fully mobilized strength, each regiment would have up to ten or twelve active battalions.

Battalions of a regiment could serve in several different divisions. Their assignment to divisions would take into account past and present affiliations of regiments, battalions and divisions. In this connection, it should be noted that the proposed system has at least as good a chance of maintaining such affiliations as has been accomplished in the past. The change from the square infantry divisions of World War I to the triangular divisions of World War II disrupted many of these relationships. For example, the 3d Infantry Division fought in France in 1917-18 with the 4th, 7th, 30th and 38th Infantry Regiments; it went through World War II with the 7th, 15th and 30th Regiments; it fought in Korea with the 7th, 15th and 65th Regiments. Similar reassignments affected the division's artillery units.

Some units of the Army Reserve would become members of Regular Army regiments. This would have the effect of creating a closer relationship between the active army and the Reserve, and would bring the Army, through its regiments, closer to the public in the localities where its member units are located. Rgular Army regiments, in the past, have formed close associations with the citizens of a city or locality. The 30th Infantry, for example, came to be called "San Francisco's Own."

IT is recognized that many Reserve regiments have fine war records in their own right. Those which are now active in the Reserve may prefer to keep their present designation, rather than become part of a Regular Army

EXAMPLE OF PERMANENT CAVALRY REGIMENT

1st Cavalry Regiment (1st Regt. of U. S. Dragoons, 1833)

WAR STRENGTH ARMY

UNIT	ASSIGNED TO
1st Tank Bn, 1st Cav	1st Armd Div
2d Tank Bn, 1st Cav	3d Inf Div
3d Tank Bn, 1st Cav	5th Armd Div
4th Tank Bn, 1st Cav	76th Inf Div
5th Tank Bn, 1st Cav	Seventh Army
6th Tank Bn, 1st Cav	VIII Corps
7th Tank Bn, 1st Cav	9th Armd Div
8th Tank Bn, 1st Cav	12th Armd Div

PEACE STRENGTH ARMY

1st Tank Bn, 1st Cav	1st Armd Div
2d Tank Bn, 1st Cav	3d Inf Div
3d Tank Bn, 1st Cav	5th Armd Div (Army Reserve)
4th Tank Bn, 1st Cav	76th Inf Div (Army Reserve)
5th Tank Bn, 1st Cav	Inactive
6th Tank Bn, 1st Cav	Inactive
7th Tank Bn, 1st Cav	Inactive
8th Tank Bn, 1st Cav	Inactive

regiment. They would, in any event, keep their own history and battle honors even if redesignated. The point to remember is that many good wartime Reserve outfits cannot be kept active even on paper in peacetime, under the present system, so all concerned should be willing to close ranks on a lesser number of regiments, for the sake of giving those regiments continuity and stability.

The Reserve divisions, of course, would continue unchanged, and their component units would change only their regimental designation.

THE method of designating National Guard units will parallel the system for Regular Army regiments, except that the units in each state and territory will be members of their own National Guard regiments. This recognizes the dual status of National Guard units as both state and federal forces. It also gives continuity to the traditional National Guard regiments, some of which are older than the U. S. Army itself.

As a possible long-term feature of this regimental system, it may be desirable to establish regimental headquarters at permanent locations. A headquarters might perform a variety of support functions for members of the regiment, such as maintaining the regimental history, providing a repository for the colors and trophies of inactive units, maintaining records of members, performing personal services for overseas members, recruiting, and operating a regimental training unit at an Army training center. On the other hand, perhaps regimental activities could better be conducted by an *ex officio* organization similar to the division and regimental associations which exist today.

If a regimental system, or something similar in purpose, is adopted, there is little doubt that the resourcefulness of American soldiers will be applied to developing embellishments and additional features of regimental organization and regimental spirit. Once we have a going concern, it may prove feasible for a soldier to remain a member of his regiment throughout his entire active military service, and continue his association when he retires or becomes a civilian veteran. It may turn out that this system will help the Army find a way to make the wartime draftee, on the day he enters basic training, a member of the unit in which he will fight, instead of moving him along as a "number" until finally he joins an outfit at the terminus of the repple-depple pipeline.

REPLACEMENT of complete units on the battlefield is a recognized requirement in modern war in which mass-destruction weapons are employed. The size of the replacement unit will depend in part upon combat-loss rates, and upon the requirement to use our manpower economically. We can expect that replacement units up to battalion size will be sent to combat theaters. Their use to replace depleted units will result in some interchanging of subordinate units within divisions. Individual replacements also will be needed, to keep units at effective strength, and to rebuild depleted units in the theater rear area so that they, in turn, can go back into the fight. This concept of a flexible battlefield replacement system immediately gives rise to the need for designating replacement units by a more suitable method than the "provisional" device. A flexible system for creating additional color-bearing units, based on the regiment, is well suited to this purpose.

At the very least, the soldier will belong to an outfit that means something to military men and civilians alike when the regimental name is mentioned. And the outfit will always be around, its colors passing on parade, when he feels like telling Junior a few combat stories.

Allen Griffin, a colonel in the Army Reserve and editor and publisher of the *Monterey* (California) *Peninsula Herald*, has fought for years to save our historic regiments. He points out that the American is a "joiner," that he has a strong desire to "belong" to something, and that the Army cannot ignore this practical fact when American young men serve as soldiers.

THE British have had a system very similar to the one proposed here. They think a lot of it. Developed by Lord Viscount Cardwell in the nineteenth century, it was designed with the simple objective of supporting peacetime rotation of troops between the home islands and the colonies. It is significant to recall that the plan met vigorous opposition at the time, but in less than ninety years the regimental tradition has grown so strong that not only the British soldier, but the whole British nation would rise instantly to its defense.

British success with a regimental system is neither an argument for nor against its adoption by the U. S. Army. It does, however, constitute an example of the results that can be achieved. Field Marshal Sir William Slim, former Chief of the Imperial General Staff, has spoken of "the pride in regiment which is still the foundation of the British soldier's stubborn valor."

The U. S. Army, in devising a regimental system to meet its own needs, can profit by British experience. We also are in a position to tailor the system to fit American conditions and adjust it to the requirements of total mobilization and global war.

Probably most of us can agree that something should be done to save our traditional units. The problem lies in deciding how we can best go about achieving this purpose. We must correctly assess the difficulties if we are to find a workable solution that satisfies progress as well as tradition. The answer—if it is the right one—cannot stand in the way of complete freedom to modernize the Army and keep the tactical organization flexible. It must be based on what the soldier needs, rather than on what seems most convenient for the troop-basis accountants. It should move all components and branches in the direction of greater unity, for the good of the Army as a whole. Above all, it must be oriented to the future, without sacrificing its heritage from the past.

The Department of the Army is looking for the best solution. Its staff is made up of people who have been field soldiers and will be again, but it has no monopoly on constructive thought. Suggestions and ideas from the field are welcome, for this subject has many facets which need to be considered. **ARMY** is the soldier's forum for ideas, and anyone who has suggestions to contribute is cordially invited to get into the act.

A SOLUTION will be found. The Army's 180 years of proud history and tradition are a foundation on which to build. The old and the new need not compete; they should complement each other. And with the perspective that comes from surveying the past, we should be able to devise a method that promotes order and continuity within the Army family of fighting units extending many years into the future.

The script the narrator is reading is heard by the class who see the same picture the narrator is viewing as he reads. The lesson shown here is in airborne loading methods.

TRAINING BY TV

JOSEPH H. KANNER and RICHARD P. RUNYON

Television shows great promise as a training aid. In tests most men learned as well as by conventional methods and some men learned quicker and retained more of what they were taught

THE pressing problems of military training underscore the widespread interest in the potential of television in solving them. This interest has been accelerated in those who have seen training by television at the Signal Corps schools at Fort Monmouth and Fort Gordon.

In its early days, TV had a promising potential as a training medium or for supplementing classroom instruction. To realize this potential, however, much research and development were required to expand existing limited means. Besides basic information on the effectiveness of teaching through this medium, practical know-how techniques for preparing and presenting such instruction had to be developed. Qualified instructors had to be found, subjects had to be selected, and other problems solved.

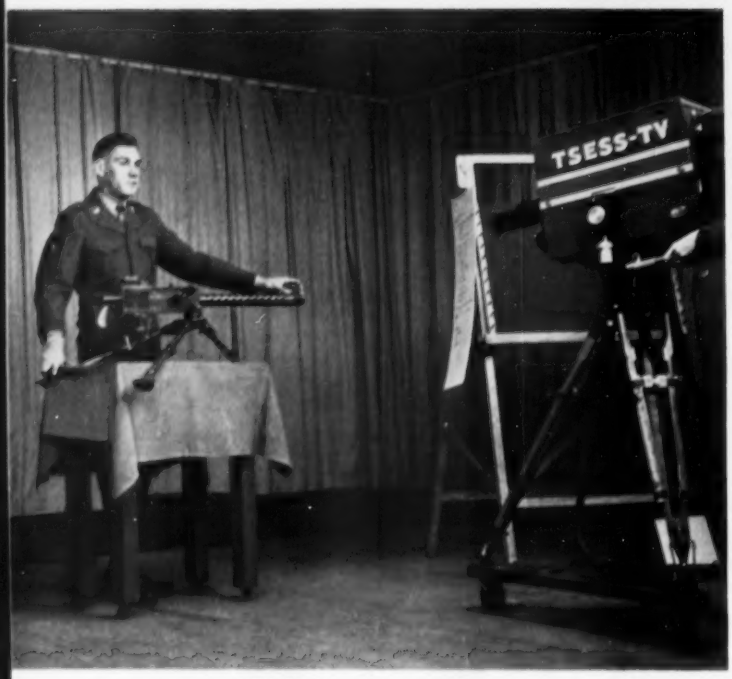
To obtain this information a series of television research studies was begun by the Signal Corps, in coordination with G3 and CONARC, at the Southeastern Signal School at Fort Gordon in October 1953. Research was done by the Human Resources Research Office (HumRRO) of George Washington University.

The Fort Gordon school was chosen because it operated a closed-circuit TV. Also, it was conducting a basic training program designed to develop televising qualifications. Units of the Signal Corps Pictorial Center's mobile team, with their technical equipment and crews, were sent to cooperate.

The first study was aimed at determining how television might be used in a national emergency or mobilization, and how to apply its use to routine training. The study selected fourteen hours of representative instruction from the first eight weeks of basic training, taken from map reading, mines and booby traps, M1 functioning, squad tactics, signal communications, military justice, LMG disassembly, and defense against aircraft and armor. Conventional oral instruction during these hours was compared with a televised version in which the material, content and sequence of subjects were duplicated. Basic training companies were split into matched halves based on Area I aptitude scores. One half received instruction by conventional means, the other through TV viewing. Each instructor was compared for regular and televised performance. Written performance tests were given students immediately after each type of instruction and, for selected groups, retention tests a month later. Other comparisons were made with film recordings (kinescopes) and direct oral instruction.

THE study brought forth these results: Television was generally more effective than direct oral presentation. It was particularly effective for low-aptitude groups. Although high-aptitude men learned well from television, low-aptitude groups showed more gains when taught by TV than when conventional live methods were used on them.

Television instruction was retained at least as well as that by direct means.



While the instructor demonstrates the disassembly of a light machine gun in the studio, students in the classroom, each with a LMG, follow his movements. In this test TV-trained students did better than students taught through conventional methods

There was some evidence that low-aptitude groups retained instruction better through TV than through direct oral methods.

Comparisons of kinescopes and oral presentation indicated that kinescope was as effective as direct oral instruction, although somewhat less effective when live TV was used.

A MONTH after instruction began, kinescopes were used for review. Here, test performance for groups after one kinescope review was significantly higher than scores made immediately after instruction. Test scores of low-aptitude trainees after one kinescope review approached those of high-aptitude groups following the first instruction.

It was discovered that television was more effective for teaching interrelations of parts, paired-associate learning, recognition training, and manipulation of equipment.

In addition, much information was obtained on methods of preparing materials for TV presentation, instructor qualifications, and other factors important to everyday instruction by television.

Results obtained in teaching motor skills were particularly interesting. Students were taught to break down the light machine gun. Each man had his own LMG and watched the instructor in the TV picture in front of him. The instructor, in a studio miles away, paced the trainees in disassembling the weapon by the numbers. This was compared to live instruction for the same hour's training conducted at Fort Gordon. Immediately after TV and conventional instruction, each group was given a performance test and the time measured for correctly disassembling the gun. A maximum of 280 seconds was allowed, and those exceeding that time were rated as failures.

The results showed that the television-instructed groups averaged 45 seconds less to correctly complete the disassembly. In addition, a greater number of live-instruction students failed to complete the disassembly in less than 280 seconds.

THE administrative and teaching advantages of TV instruction were particularly striking. Conventional instruction required one instructor and three assistants, with large and expensive mock-ups of the LMG. Men in the rear of the class could not see small features of the mock-ups. Only one instructor was used in televising, and he demonstrated with the weapon, not a mock-up. Close-up shots permitted all students to see the small features of the weapon. The television instructor controlled the actions of all trainees, and could guide them in correct movements and thus prevent errors—a difficult thing to do in a classroom. A student gained the impression of being individually instructed over the television.

Students were taught to orient a map by using only a ruler and a compass. A performance test showed that TV-trained groups did significantly better than classroom groups. Again, the television instructor was better able to demonstrate and to guide his class in learning these skills. These results point to the particular adaptability of TV to teaching motor skills. In effect, it appears able to bring the benefits of

Dr. Joseph H. Kanner is Chief of the Training Section, Television Branch, Army Pictorial Service Division of the Office of the Chief Signal Officer. He earned his Ph.D. in psychology at New York University in 1951. He has been Aviation Psychologist, USAF, conducting research in the use of films for training in electronics and related matters. He was also Senior Research Scientist at HumRRO, where he was engaged in research studies related to Army electronics training, and task leader in charge of Army television research studies for the Signal Corps, G3, and the present CONARC. **Dr. Richard P. Runyon** is Chief of the Applications and Development Section, Television Division of the Army Pictorial Center, and Adjunct Professor of Psychology at Post College, Long Island. He also served as research psychologist for HumRRO, and was staff member of the research team that conducted television studies for the Army. His Ph.D. in Psychology was earned at Yale.

individual instruction to large groups.

From the viewpoint of cost, the savings in training aids that television permits are important. We have already mentioned that expensive mockups are not needed. It was found too that some expensive training aids could be dispensed with, by using real parts, simple charts, or photographs. In one instance, students were marched a number of miles to see a real tank. In television instruction the trainees looked at a TV set that showed a photograph of the tank, with equally good results. Television's ability to replace the training aid and to amplify it is not surprising. The size of many training aids is based on the need for blowing up small parts so that all students can see them. The TV close-up can do this with actual equipment. Besides, even the largest practical training aids are not always successful. Television permits further amplification and transmission of these training aids to large groups.

The TV camera moves in for a close-up of a radio capacitor being demonstrated by the instructor

And this is the picture of the capacitor the students see

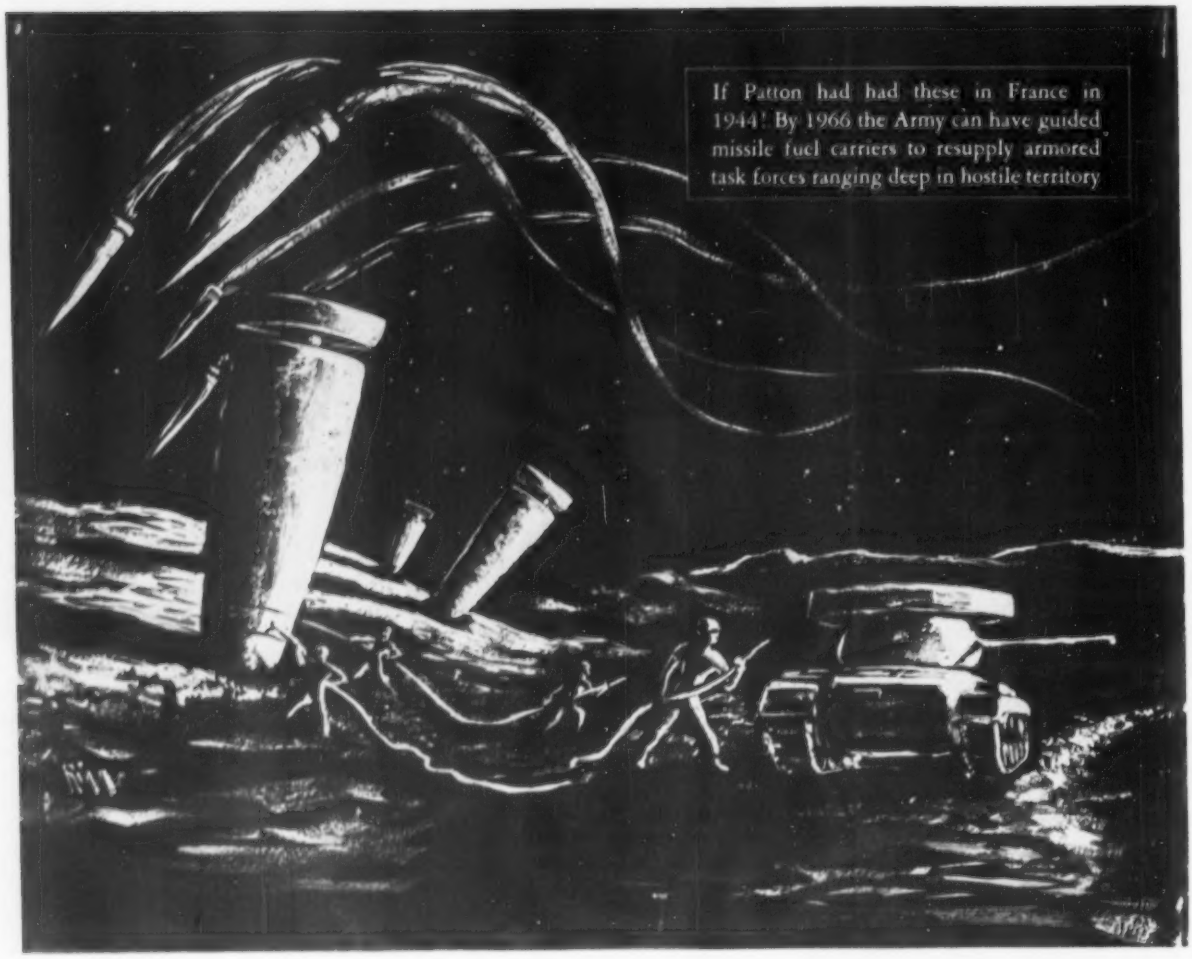
A SECOND phase of the study was conducted at Fort Gordon, to pursue some of the leads suggested by the first phase, and to further explore certain problems important in military training. Among the objectives of this second study were the extension of the use of TV to reduce training time, the improvement of teaching effectiveness, and the evaluation of new equipments such as the "cueing" device. The final report is being prepared. Indications point to the successful use of TV in teaching difficult electronics subjects. Marked reductions in training time were also achieved, and procedures for rapidly training new TV instructors and standardization of effective instruction were developed.

In addition to these basic studies, the Signal Corps continues to develop the application of television to a variety of instructional situations. At the Southeastern Signal School television presents a varied program of instruction in electronics subjects, teletype maintenance, and informational programs. A large-screen projector in operation there was recently used to brief large numbers of ROTC cadets in various military subjects. The Signal School at Fort Monmouth operates another closed circuit. Instruction and orientation are presented regularly, and the training of technical television personnel is coordinated with the operation of the facility.

ONE important development at Fort Monmouth is the use of television to show films. By proper scheduling and coordination, military films are sent to several classrooms through TV. In this adjunct use of television, the first fifteen minutes or so of the instruction are done by film. The instructor then shuts off the TV receiver and proceeds with the rest of his subject. This makes available important film information to the class. Films can be shown with a minimum of disturbance, and this procedure has increased the frequency and size of classes for many training films. Projection of films by television offers the further advantage of using a lighted room. There is enough light for note-making while viewing the TV film.

Recently, a comprehensive research program was carried out at Fort Gordon and at Fort Monmouth. This covered such problems as training-aid requirements, instructor training, reduction of training time, improvements in teaching effectiveness, and other factors important in military training. The variety of instructional situations, the availability of students, and the existence of extensive TV facilities at those posts make them ideal centers for developing training by television.

The Signal Corps does not envision television as a replacement for conventional means of instruction, or as the solution to all military training problems. There is no short cut to the hard work and unceasing effort in maintaining effective instruction. Our present knowledge of television's capabilities points to its having an important role in the Army's training methods in the future.



If Patton had had these in France in 1944! By 1966 the Army can have guided missile fuel carriers to resupply armored task forces ranging deep in hostile territory

Logistical Muscles by Missiles

Guided Missile Supply Ships for the Army

LIEUTENANT COLONEL ROBERT B. RIGG

Illustrated by the author

IN the future—perhaps in less than ten years—the Army will have a family of guided missiles carrying supplies to units in combat. Missiles will introduce new three-dimensional proportions into the logistics of armed conflict. The first will be speed, where critical supplies are required. Secondly, great distances can be encompassed by guided-missile supply ships. Thirdly, supply missiles can partially eliminate sea and ground forms of supply transportation.

Up to now we have thought of guided missiles in terms of warhead explosion and local destruction. Actually, missiles will soon enter their new era of constructive benefit to Army units in action. Thus, missiles will play a part in either atomic or non-atomic war.

Consider a brush-fire war in the jungle. Supply missiles fired from distant supply points, safe from guerrilla

threats, would resupply combat units deep in the jungle. Helicopters would serve to evacuate the wounded and replace men and weapons, but bulk day-to-day supplies could be lobbed in by missiles. Thus, Army forces would overmatch guerrilla and jungle opponents by superiority in supply techniques and at the same time provide a minimum of close-in supply targets.

Communist guerrillas rely on the attrition effect of constant harassment of our land lines of communication. Eliminate those lines and they are deprived of a favorite tactic. Such warfare would become, for the Communists, a war of no targets except that of our combat forces and ours will be superior in fire power and mobility.

In the Arctic, supply missiles would also further our combat success by largely eliminating arduous supply routes and bases in regions where freezing temperatures clasp such operations in a cold death-grip.

Small war or general war, the supply missile is destined to add new proportion to the logistics of future combat. Such logistical missiles will range in size from the truck-launched variety for short ranges to intercontinental ballistic size with immense tonnages.

The present warhead of the missile would become the carrying case for supplies. Warheads would be pre-packaged in single-type loads such as ammunition, medical supplies, food, fuel, and special supplies. Some warheads could be made suitable for the insertion of multiple-type supplies at the point of launching. Upon launching, the supply missile would be guided to the general region of use, and then be zeroed in to the exact spot for unit supply drop. Each missile would contain the electronic brains and vanes to lower the warheads into the drop zone upon proper radio signal from the unit to be supplied. The exact location of the unit drop zone would be supplied to the missile's electronic brain by impulse supplied from a compact pre-set radio set of light weight.

Obviously, the enemy would like to divert such cargo missiles to his use. This would necessitate signal security measures to insure against missile jamming and diversion. This can be accomplished with no great difficulty.

BY 1965 it will be possible for the payload tonnage of a single missile to approach six to ten tons for ranges of 150 miles and well beyond. With ten-ton warheads, an airborne division in an airborne assault deep in enemy territory could be supported by thirty-five missiles a day. An armored division in the exploitation phase would require thirty-two missiles a day to be entirely supported. Thus, for special or critical operations, the airborne and armored divisions could proceed essentially without wagging and dragging a ground logistical tail. The evacuation and replacement of personnel in such operations would have to be by aircraft. Missiles will never become a cure-all for all military problems, combat or supply. Missile supply will not be as simple as here described, but there is a significant new role for guided missiles.

The question of cost can be raised. Supply by missile would not be cheap, but the more missiles, the less trucks required immediately in back of divisions. Thus, missiles can, in certain combat situations, eliminate other costs, but more important, they can contribute to the mobility and battle-winning quality of units in combat. Cost is relative to the military task to be performed, and the objective. Bridges are built in war without regard to cost, but with great regard to speed and combat effect. A commercial-type bridge is constructed on the opposite basis. In war, dollar-cost is subordinate to victory. A campaign or war that is shortened by new means of tactical and logistical speed, even though they are momentarily expensive, is in the end less costly over-all.

The supreme tonnage of sealift by surface vessels cannot be supplanted, but it can be supplemented, especially in terms of speed, and in terms of supplies which may become critical. For example, a sudden build-up of supplies may be required in a strategic area. Thus, guided missiles can become the primary transoceanic suppliers of critical military matériel in strategic areas. Strategic speed could be great accelerated in global-type conflict by the use of guided missiles for supplies.

THE impact of missile-supply ships on ground warfare would be that mobile combat elements could sustain supermobility, and not be largely tied to overland routes. It means that supply bases could be greatly separated from the fighting elements—even to the extent of being across inland seas or on other continents. It would mean that a sudden build-up of supplies on both strategic and tactical levels could be achieved in hours as compared to months for past wars. The logistical missile will introduce a new proportion to any type of future war, and it will project U. S. Army units with new striking power in future combat. The missile, like any artillery projectile, is transportation and delivery first, followed by arrival of the payload, be it supply or explosion.

Resupply of infantry units by guided missile supply ships will eliminate long and hazardous overland supply routes of communication

SKYSWEEPER
Target Assignment

How to tell the gunner where the target is

LIEUTENANT COLONEL BENJAMIN H. OEHMKE

EVERY artillery battalion has the problem of locating and assigning targets to the gun crews. This is a particularly keen problem in antiaircraft Skysweeper units, whose high-speed air targets may approach in number and from any direction.

Our early warning and acquisition radars are normally the first to pick up and track such targets. At successive time intervals they read and transmit the azimuth and range to the aircraft from the radar position. In order that all elements of the air defense may know the location in terms common to all, the operations centers convert the polar coordinates from the radar into GEOREF grid coordinates, the track of the target is visually displayed on a plotting board, and the information is broadcast in GEOREF terms.

Each Skysweeper gun has its own radar with a pick-up range of about 24,000 yards. The radar operator can search the entire sky, but to aid him in picking up the fast air raiders it is very helpful to give him a search area as small as possible. His PPI scope is so small, however, that it is not very practicable to assign a target in terms of GEOREF coordinates. It is necessary to convert the grid coordinates of the target back into an azimuth and range applicable to that radar. In some units this conversion is effected by each gun crew. That requires, however, for each gun a conversion plotting board and more trained personnel than are available.

In the 168th AAA Battalion at Fort Bliss, a procedure has been developed to permit one crew to effect the conversion at the battery command post and to transmit the data instantly to all the battery guns in terms applicable to each. The procedure has been tested for months both in tactical and in firing exercises at Fort Bliss and in Exercise Sagebrush. Of course, any system of target designation for antiaircraft is suspect, because the number of targets in the area, their tremendous speed, and their infinite choice of approach may make the problem utterly confusing. Speed and simplicity are certainly important. The procedure outlined in this article has been found applicable in mobile situations, reasonably accu-

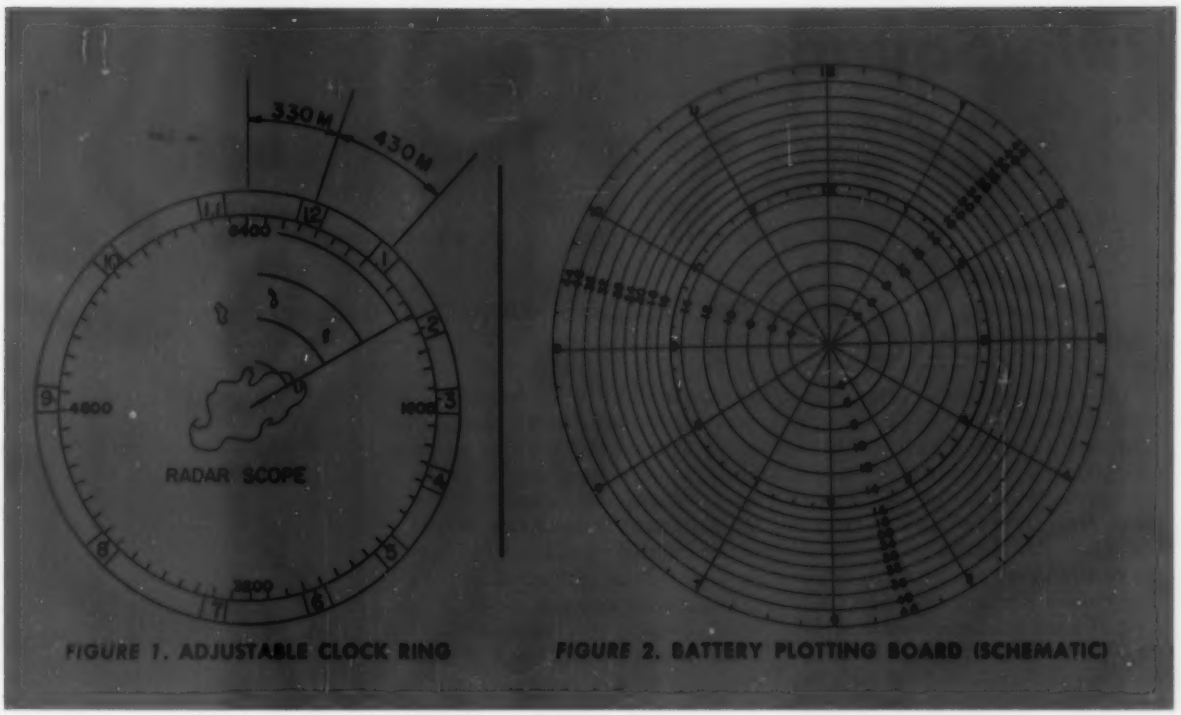


FIGURE 1. ADJUSTABLE CLOCK RING

FIGURE 2. BATTERY PLOTTING BOARD (SCHEMATIC)

rate and more rapid than any other tested. It works.

In this system a special clock dial is superimposed on the present position indicator scope of each gun radar. A range of 15,000 yards, well outside the engagement range of the gun but well within the pick-up range of the radar, is taken arbitrarily as the alignment range for the radar clock. *(See Figure 1.)* Note the true azimuth scale graduated from 0 to 6,400 mils. Also note the biased clock dial with the unusual locations of the hour graduations on the dial. The clock-dial graduations vary for each of the gun locations, and the key to effective operation is in getting the clock dial for each gun graduated correctly.

To do this, the guns and the location of the battery command post are plotted on a scale of 1:50,000. The battery CP is located in the center of an ordinary clock dial.

Now the battery commander takes a deflection fan and measures the azimuth of a point 15,000 yards due north of the battery position from each of his guns. He then records the azimuths thus derived, and at each gun the radar operator marks 12 o'clock on his clock dial (superimposed on his present position indicator) to reflect the azimuth given him by the battery commander.

GUN No. 1, for example, is to the left of the battery CP as you face north. No. 1's radar clock then will have its 12 o'clock figure pointing to the right of north at a point on the map where the north line from the battery command post is intersected at 15,000 yards' range by a line from No. 1's position. Gun No. 6, on the other hand, may be on the right of the battery CP facing north, and No. 6, therefore, will have its 12 o'clock figure on its radar dial pointing to the left of true north by perhaps as much as 300 to 400 mils.

The same process is repeated for each hour on the clock dial and for each gun. Fifteen-minute graduations may be marked by interpolation.

Obviously, if the target is at any range greater or less than 15,000 yards, an error will be introduced. However, a pinpoint location of the target is not necessary. The radar operator will search from 100 to 200 mils on either side of the designated target position in order to locate and lock onto the target.

FIGURE 2 is a schematic illustration of the battery plotting board, which is used to supplement the standard battery GEOREF board. This clock reflects ranges in thousands of yards and enables the battery commander to make a quick conversion from the GEOREF coordinates coming to him on the intelligence net from the antiaircraft operations center to polar coordinates in the form of a clock direction and an approximate range which he will relay to each of his guns. Information originating with the battery acquisition radar, the AN/TPS-1D, can be plotted directly on the clock and thus disseminated to the guns. To the battery commander, this simple conversion represents one easy way of controlling the distribution of his fire power. He can, in the process of locating targets, indicate to his gun sections which targets he wants to engage. At the same time, he can, without unduly complicating command, reserve some of his fire for other targets which he may perceive to be approaching from other directions.

Lt. Col. Benjamin H. Oehmke, Artillery, won his commission in 1934 from the ranks of the 27th Infantry Division and served with the same division during the Second World War. He transferred to Artillery after the war and served as Senior Instructor in Communications at the AA and GM School, Fort Bliss, Texas, from 1951 to 1954. He now commands the 168th AAA Battalion.

Rifle Squads
Tailored for Teamwork

How about a five-man squad in an eleven-man section?

LIEUTENANT COLONEL JAMES M. GIBSON

"Our assault started in good form," the squad leader later told the company commander. "That skirmish line was fine when we left the assault position; my men were advancing two or three paces, firing aimed shots, and advancing again. But about fifty yards from the enemy trench trouble really began. The enemy fire kept increasing, and a lot of small mortar rounds were hitting just to our rear, so that I couldn't make myself heard. Neither could my assistant squad leader. I saw him dash forward to direct the automatic rifleman, while another man ran toward the trench, close enough to toss a grenade. Those nearest to him hit the ground. Believe me, things were getting confused.

"Some men dropped, the others faltered. That skirmish line—it was demolished. I rushed forward, yelling to the closest men, 'Follow me!'"

CONFUSING indeed. Of course, assaults didn't always happen that way in World War II. Sometimes assault waves flowed unbroken over the enemy position. But in Korea, accounts like this one were closer to reality. I want to discuss the reasons for this and in the process look at our past and present squad organizations to see if they are tailored for the job.

In the early stages of World War II we were taught that the assault begins when anyone, perhaps some brave rifleman, gets up and heads for the objective. Everyone else is to follow immediately. Many a Benning graduate went through the battles of that war looking for that brave soldier, only to find that he, the leader, usually had to be it. To purge this poor technique, "marching fire" was developed.

The theory is this. The preparatory fires will initially neutralize the enemy defense. Just before indirect supporting fires lift or shift, the platoon will start gaining its own fire superiority by laying down a heavy volume of fire from organic and attached weapons. The platoon leader, while having his men maintain this superiority, moves them forward together in the assault.

The gimmick in marching fire is that that theory presupposes one important thing: that the platoon's organic and attached weapons, along with supporting weapons, will so neutralize the enemy that he will not be able to direct effective fire on our attacking troops. Indeed, this presumption was only an actuality in the attacks against hastily organized positions and demoralized German troops in the late months of World War II.

THE answer as to what would happen against an intrenched and dogged enemy had to wait for the Korean conflict. There the Communist soldiers took advantage of the rugged terrain, and dug deep into the hillsides, determined to stay. When our assaulting troops came within 25 to 50 yards, the enemy would throw large numbers of hand grenades. He certainly was not pinned down by our assault fire, for he hadn't exposed himself. He threw his grenades from the bottom of his hole. This opposition could only be overcome at first by part of our rifle squad throwing grenades in return. Then another group of the squad maneuvered to a flank, avoiding enemy grenades, and finally closed in to destroy the opponent.

The final stages of such assaults were not skirmish-line performances. Movement was by short spurts and jolting halts, with many small engagements involving a few men. After much confusion, and a display of great courage on the part of individuals, the objective was taken and the position consolidated.

I won't go so far as to say that the present assault technique cannot succeed. In fact, it often has, in spite of the hail of grenades thrown down a hill's steep slopes, and the bursts of 120mm. mortar shells in the faces of our attacking troops. But I can say that there is a much greater tendency on the part of the squad leader to lose control, so that the battle becomes a series of actions fought by little groups within the squad. In the obscurity and confusion the squad leader cannot control his squad, because he can no longer be

Lieutenant Colonel James M. Gibson, Infantry, entered the Army in 1942, served as a company officer with the 83d Division through five campaigns in Europe, and was integrated into the Regular Army in 1947. He participated in five campaigns in Korea as a rifle company commander, and as battalion staff officer and commander, with the 1st Cavalry Division. Except for a few days in Korea as an assistant division G3, none of his field service has been with units higher than an infantry regiment. He did a hitch as instructor and committee chairman in the Tactical Department at TIS, and is now attending the Marine Corps Senior School at Quantico.

The World War II 12-man squad

The present 9-man squad

The author's 11-man section

seen or heard. The squad breaks up, and the battle is fought by little groups.

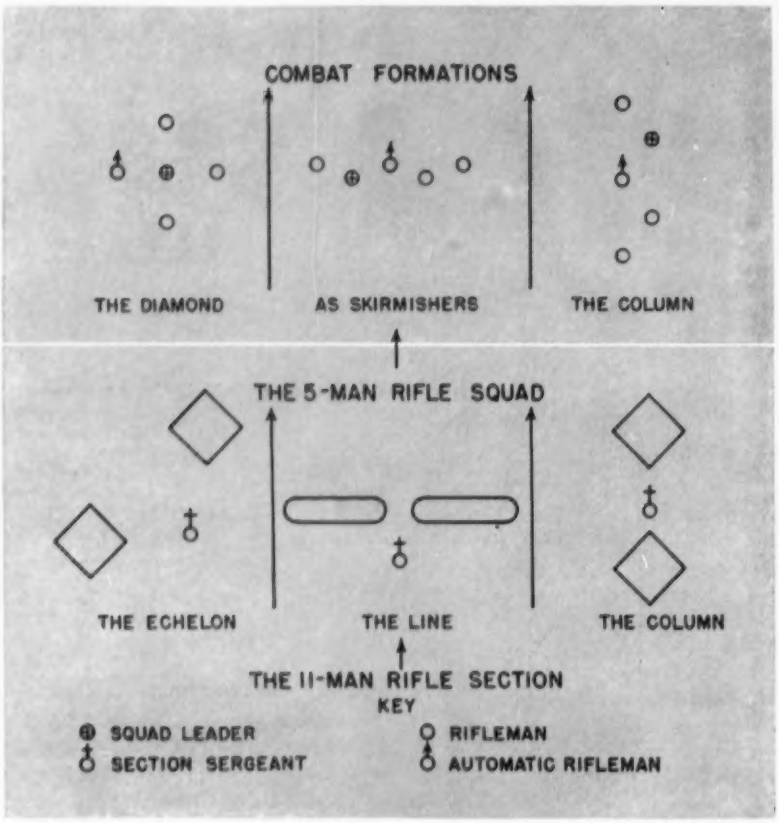
Is our present squad organized to cope with an assault of this pattern? My answer is No. For obviously, the nine-man squad has too great a span of control. Although it is organized so that the squad leader can directly control a portion of the skirmish line (Nos. 2, 4, 6 and 8), he is still responsible for the whole. He is supposed to transmit instructions through his assistant squad leader to the rest of the squad. All this adds up to lack of a clear-cut command line.

The squad is supposed to maneuver and fight as a unit and not be further subdivided. Actually, this practice breaks down when faced with effective enemy fire. No. 2 is the base man for the squad. All others of the skirmish line are instructed to guide on him. If No. 2 becomes a casualty, we suppose that the squad leader will appoint a new base man. Obviously that would be quite difficult in the noise and confusion of an assault. In short, this organization does not allow for loss of control or loss of leaders.

Here are some random additional criticisms. Since the leaders are required to control the skirmish line, they become non-firers—two out of nine men. The squad is poorly adapted to techniques for attacking fortified positions, for which we need special teams within the squad and platoon. When used on small reconnaissance patrols, outguard positions, or flank security, for example, the present squad must be split into half squads. In combat or in reserve, morale of replacements is poor because the squad leader has to supervise too many men. Indeed, in times of rapid mobilization, squad leaders generally are young and inexperienced. Because there is no sub-unit within a squad, they have had no previous opportunity to command.

All this indicates the critical need for a squad organization that offers the leader a chance for controlling his men, and which at the same time gives flexibility for different situations like those we have discussed. But before jumping to conclusions on the organization we want, let's first look at some of the different choices.

ONE solution used sub-units of the Able, Baker and Charlie teams within the World War II twelve-man squad. The two scouts composing Able



team would find and fix the enemy. An automatic-rifle team, the assistant squad leader, and perhaps a rifleman, made up Baker team—the fire element. The remainder of the squad, under the squad leader, was Charlie team—the maneuver element. This didn't work well. The squad leader was initially to be near the Able team, where he could observe the action, make his plan, and then move back to direct the maneuver (Charlie) element. Actually he was often pinned down with Able team. We also found that Baker team rarely closed with the enemy. This lack of participation in the assault led to a smaller rifle squad.

The failure of the sub-unit theory within the twelve-man squad should not lead us to conclude that all sub-unit theories are faulty. In fact, many units in Korea experimented with sub-units within squads, because of the realities of the battlefield we have discussed. The April 1953 issue of this magazine had an excellent article on battle drill, which discussed the employment of these "teams" within the rifle squad.

Teams are the basis of the Marine Corps thirteen-man squad. A platoon using thirteen-man squads covers such a wide frontage that control is difficult. Each squad requires four noncoms, and they are hard to find, train and develop. When maneuvering, either the fire element or the maneuver element is out of proportion. Each squad has three automatic rifles, which makes ammunition resupply a problem. And there are too few riflemen in proportion to the number of leaders.

CANNOT the obvious need for a closely knit team be satisfied by a five-man squad? It would consist of a squad leader, an automatic rifleman, and three riflemen. These are its advantages:

¶ The team is small enough so that the men would develop a real sense of comradeship, of belonging. This *esprit* counts for a great deal on the isolated battlefield.

¶ Where the inexperienced squad leader could not control all his men in a nine- or twelve-man squad, he should be able to control four. Moreover, this would establish a clear-cut chain of command.

¶ Four, three, or even two men can make up a fighting unit built around the automatic rifle. The five-man squad can therefore sustain several casualties and still remain effective.

¶ The five-man squad is ideal for small patrols, local security, or flank security. It would be particularly valuable in attacks against fortified positions—which means anything from a bunker to a Siegfried Line. The flamethrower can replace the automatic rifle, so we have a flamethrower team. Similar alterations can be made in reducing a built-up area. One or more teams might be designated as search teams, substituting a lighter weapon for the automatic rifle and adding demolition charges. Other squads could be assigned as cover teams.

¶ Control of the five-man squad will be easy enough to enable the squad leader to actively participate in the fire fight. In the assault he moves forward with the line, fires his rifle, talks it up, and encourages his men.

¶ The five-man squad is ideal for use with another squad in a fire-and-movement combination. One squad fires, the other maneuvers. This avoids breaking up into fire elements and maneuver elements within the squad.

¶ The five-man squad will fit into existing transportation.

¶ Looking ahead, we can quickly realize that this squad will be just about ideal for the new family of weapons that includes the lightweight automatic rifle and the universal machine gun. Meanwhile, until these weapons are issued, the squad will be built around the BAR.

HOW can the five-man squad be worked into the platoon? I suggest that we revive the rifle section and organize it into two five-man rifle squads led by a section sergeant.

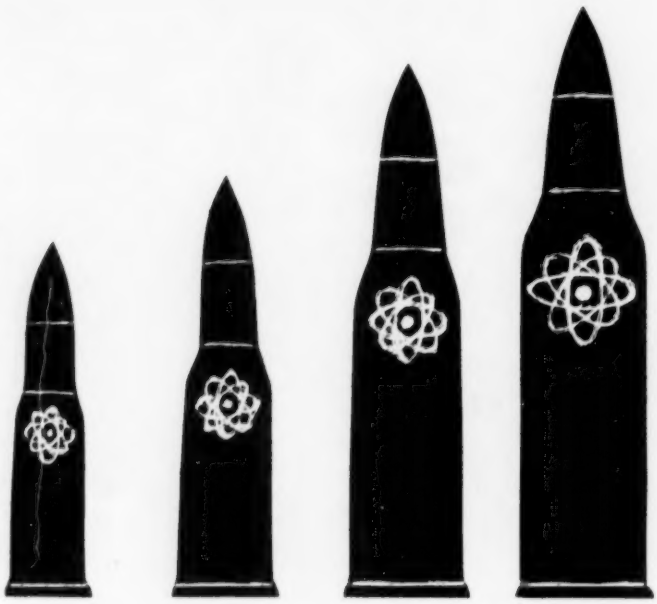
The tactics to be used in the final assault will have both squads on line, and each section in line formation. They try to sweep across the objective and reorganize on the far side. But, of utmost importance, should the enemy place effective fire on that assault line, the section leader can then employ fire and maneuver with his squads. The realism of the assault's final phase will have been recognized by squads that are closely knit teams, and can furnish both flexibility and control. The young squad leader will not have to later tell his company commander "Believe me, things were getting just too confused." Instead, he will be able to say, "Good team organization paid off."

Matsu Notebook

LIEUTENANT COLONEL LACHLAN M. FIELD, *Artillery*, sent *ARMY* a notebook full of vivid and lively impressions of a MAAG officer on duty with the Chinese Nationalist Army. These three pages are only a small portion of the whole. We intend to publish more in succeeding issues. COLONEL FIELD has been a sporadic contributor of artwork to this magazine for almost twenty years.

WET WEATHER—
MATSU
BRAVE SOUL
PRIME MEANS OF
TRANSPORTATION!
MATSU

Rocks
THERE SEEMS to BE ONLY ONE WAY
AND THAT'S UP!
CEMENT 110 lbs!
WATER
RATIONS
AMINO



Choose Your Atomic Weapons

What this country needs is close support atomic weapons of two and ten kilotons of explosive power

MAJOR DUELO

IN days of yore, disputes were sometimes settled by tying together the left wrists of the two contestants and arming each with a knife. Neither participant would have given you a plugged nickel for a hand grenade. No more would your infantryman be happy to use an atomic weapon that would destroy him along with the enemy. This raises the question of what sizes of atomic weapons the U.S. should possess.

Any explosion, atomic or otherwise, has two radii of interest to the user: the damage radius, and the safety radius. The damage radius, which is likely to be considerably smaller represents the distance from the burst at which we believe an acceptably high level of damage will be done to the enemy. The safety radius is the distance at which damage to us will be acceptably low. The ideal weapon has the two radii

In opening the subject of sizes of tactical atomic weapons to the inquiry of soldiers, ***ARMY*** believes that **Major Duelo** is performing a useful public service. He is an infantryman who has had more than a basic introduction to atomic weapons. It should be added that the article was cleared for open publication with the usual disclaimer of indorsement of "factual accuracy or opinion."

almost identical—such a grenade would kill everyone out to 10.6 yards, and hit no one at 10.7 yards. It's likely to be a cold day when we get that degree of precision in our weapons, HE or atomic, but meanwhile we can choose the proper size bursts so that the difference between the two radii is minimized. The strongest argument for small bursts is the need for supporting our infantry. It is doubtful if anyone else will need any weapons smaller than are required for close support, so we'll begin there. Figures 1 to 4 show right and wrong sizes of close-support weapons. A burst which is too big doesn't work out, no matter which way you shift it; one too small is just wasted effort, as we shall see. Of course, we must not be misled by those neat little circles; they are by no means precise. Consider the grenade again. We don't count on its killing all enemy within ten yards of it, but even so, we don't stand eleven or even twenty yards from it when we have any choice.

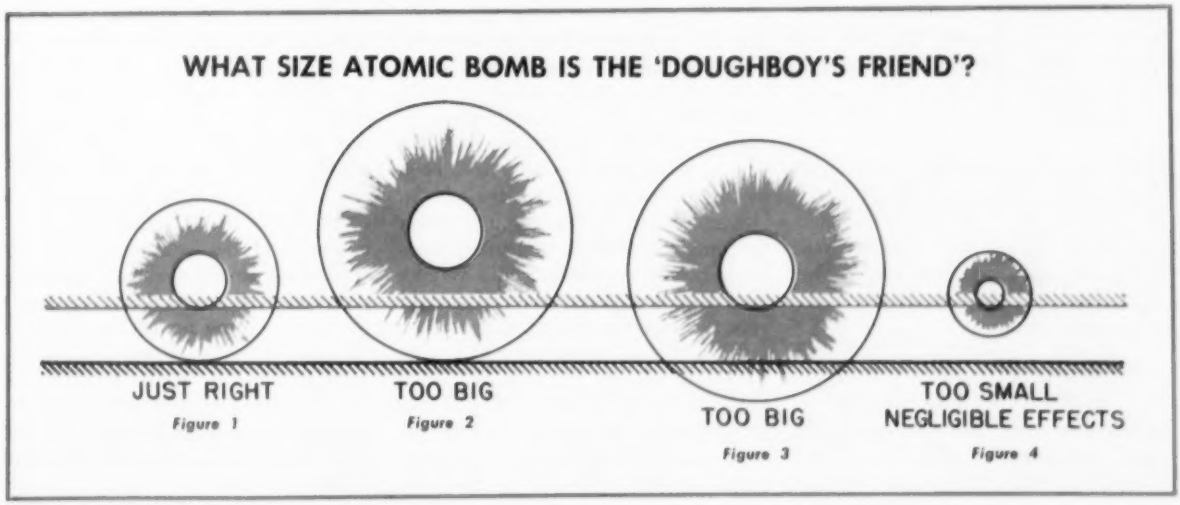
To arrive at a sound solution to the size problem, we must first assign a number to the item we're trying to reduce: namely, the difference in radii of damage and safety. Ideally, this difference would be exactly the space between enemy and friendly front-line traces. From personal experience in Korea, I can state that on the defense this distance varies from twelve yards (at Sandbag Castle) to a mile or more (in the western sectors of Eighth Army) with almost the same spread on offense. As so frequently happens, the extreme figures in the sample are worthless and the average meaningless, so we must attack the problem from another angle.

This article, in its entirety, is based upon unclassified publications: *The Effects of Atomic Weapons*, Government Printing Office, 1950, and *Radiological Defense*, Volume II, AFSWP, November 1951.

IF we assume that infantrymen aren't really angry at anyone beyond small-arms range (oh, they basically hate some artillerymen farther back, but they aren't really mad at them) we'd put the average separation of lines somewhere between 500 and 1,000 yards. We arrive at this figure again if we say we want to cover the next hill to ours, but not hit the one behind it, nor the one in front of it (*that's where we are!*). Of course, if we can hit safely *both* the next hill and the one behind it, that's fine, but hitting the second hill must be secondary to clobbering our pals right across the way, and to preserving our own health.

Thus, "The Doughboy's Friend," the ideal close-support weapon, has a damage radius and a safety radius which differ by 500 to 1,000 yards (*Figure 1*). If the difference is greater than the separation of enemy and friendly lines, we either miss the first hill (*Figure 2*) or subject our foremost units to an unacceptably large risk of injury (*Figure 3*). If the difference is smaller, the damage radius is generally so small that we don't get the whole hill (*Figure 4*) and consequently haven't helped our own advance sufficiently to warrant the expenditure. If we don't blow a big enough hole (and in the very front of the enemy's position) our advancing infantry will find their route completely covered by fire from the edge of the damage circle, and perhaps even reoccupied before they get there.

NEXT we must determine what size bursts fall within the range of usefulness. The books tell us that we can count on killing a lot of people with 7 *psi* overpressure (pounds per square inch pressure above atmospheric), or with 9 calories per square centimeter of heat radiation, or with 1,000 *r* (roentgens of nuclear radiation). They also indicate we'll be pretty safe if we ourselves are hit with only 2 psi, or 3 cal per cm^2, or 25 r. If we plot the radii for these effects (using 2,000 r instead of only 1,000 r, hoping to drop the enemy in his tracks) against the bursts of various sizes which can produce them, we see the separations of front lines required by any size of burst. *Figure 5* is a portion of this plot —the entire range would cover several pages. The table shows the points of interest on these curves, particularly the points at which various effects cross over. They cross because effects don't vary *directly* with size of burst, so a given effect will reach out farthest only for a certain range of burst sizes, and then another effect reaches out farther as we increase the size of the bursts. In the table the data for only the farthest-reaching damage and safety lines are shown. These are the heavy lines in *Figure 5*, and are the ones we must worry about in drawing *Figures 1 through 4*. Right here we should point out that tactical A-weapons are almost 100 per cent antipersonnel and antiequipment. They are almost useless against good bunkers, especially



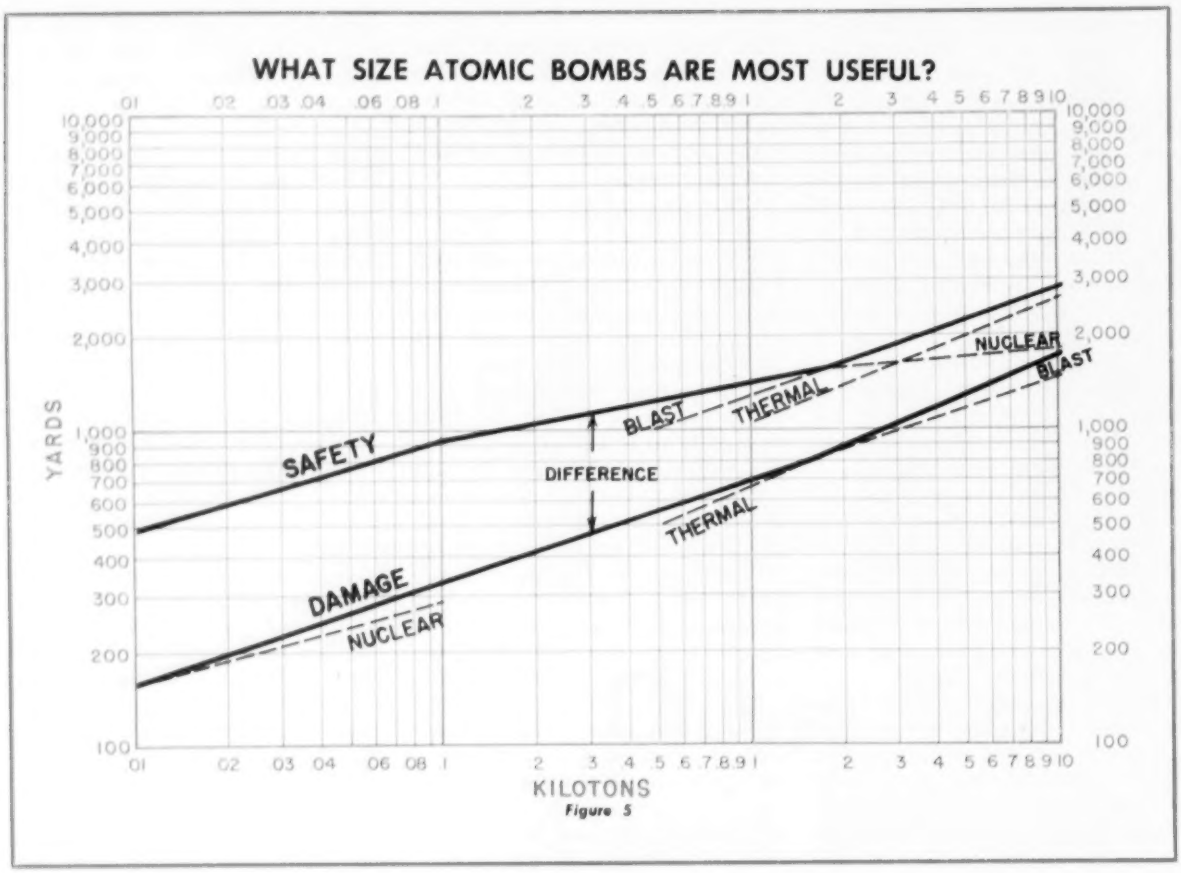


Figure 5

earth-covered, so our damage radii include only casualties to personnel with minimum protection.

Below about 2 *Kt* (one kiloton or Kt equals 1,000 tons of HE equivalent) we cannot shoot any noteworthy distance closer to ourselves by decreasing the size of burst, unless we make the burst so small (50 to 150 yards damage radius) that we might better put a few 105mm concentrations out there instead of frittering away our uranium. So we can reasonably say that the smallest useful A-weapon is about 2 Kt, because we "lose money" by going any smaller.

HOW about larger weapons? How many do we need: 3 Kt, 4 Kt, 5 Kt, 6 Kt, and on up to 50 *Mt* (one megaton or Mt equals 1 million tons of HE equivalent) in 1 Kt steps? The table (*Page 41*) answers the last question, if not the first.

Note that if you even double the damage radius you have to jump from 2 to 10 Kt. Right here someone is bound to scream, "But what about the target that just fits 6 Kt? Must I use three 2 Kt weapons on it, or overdestroy with 10 Kt?" The answer to this well-meant question is that no one alive knows the extent and composition and location of any enemy target with sufficient accuracy to argue what damage radius is needed within at least 100 per cent. You don't agree? You saw from your OP a heathen Chinee battalion all set to jump you, and they would have just fit a 6 Kt burst? I don't question your eyesight, pal; in fact, I'll give it credit for everything but seeing through that little rise behind the battalion you spotted—there were two more battalions back there which would have been fried quite crisp by a 10 Kt aimed at the battalion you saw, but which would have been mostly missed by your pet 6 Kt burst.

Even if that battalion you saw was the only worthwhile target for miles around, how accurately could you fix its extent, and how accurately could your A-weapon be delivered? And how can you be sure the target will still be your 6 Kt size by the time the burst occurs? Frankly, I can't think of a single reason for not using a 10 Kt instead of a 6 Kt against just about any target you can dream up in that size range. The book tells us that effects prediction is accurate to only a "fair" degree anyway, so why are we shouting at each other about a few hundred yards of damage radius?

AS for the other idea—three 2 Kts against a 6 Kt target—it's just plain ridiculous. It is always harder to fire three rounds than it is to fire one, and the bother involved in firing a weapon as complicated and as important as an atomic bomb or shell is likely to be monumental. Getting three of them on the same target at the same time could become awfully rough. The basic problem for you, as a battalion commander, getting the "owners," whether division or corps CGs, to let you use three of their most prized possessions, is likely to be insurmountable. So, while it's always desirable to "make the punishment fit the crime," we won't go wrong to any noticeable degree if we arrive at our burst sizes by doubling damage radii, up to the point where the required front-line separation becomes so large we're missing that first hill. This gives us a family of 2 and 10 Kt.

The newspapers claim our scientists can make these things to order, so we might as well ask for what we want. Eventually, we may well want bazookas, depth bombs, AA shells, land and naval mines, torpedoes, booby traps (king-size!), or anything else that explodes. Each one will require a separate paper at least the volume of this one, to justify it and to explore its characteristics. Meanwhile, there is little we can say about their size requirements. As a chauvinistic infantryman, my first reaction is that 2 and/or 10 Kt should suit them if they meet close-support needs, but this is scarcely susceptible of rigorous proof as it stands.

OUR next area of concern includes the rest of the enemy's territory. So long as friendly troop safety is not a matter of concern, who cares *how* big our bursts are? Let's hit the enemy with a few begatons (1 billion tons HE equivalent; I know this definition is accurate, for I made it up) every time we can, other things being equal. The only deterrent is fallout. I don't know exactly where those Japanese fishermen were in 1954, nor how sick they really got, but while we'd love to have all that hot fallout strung across the enemy's ComZ, we would hate to have it back in our faces. This answers another question: shall we fuze for air or ground bursts? I say we should have a choice, for lingering radiation is a powerful and useful weapon, provided we don't have to go through the contaminated area ourselves before it "cools off," and provided the wind isn't in our faces. Therefore, we should be able to choose the effect we wish to maximize, whether frying enemy soldiers in contact with our forces, or temporarily denying to them a vital area. I say "denying" advisedly, for while radiation doesn't physically keep men out of an area, its effects cause the expenditure of any men who are forced or choose to venture into a lethally contaminated area, and sooner or later any nation will lose the capacity for marching men off a cliff.

WE have established the lower limit—2 Kt for the smallest close support, with 10 Kt for other close-support missions. We have fixed the upper limit as being the biggest we can make, say 100 Mt. In between we need very few, if any; if the big ones are so large in size, clumsy in shape, expensive in cost, delicate in design, that their delivery is rarely feasible, perhaps we'd better have some intermediate sizes for non-close-support missions (still doubling the effects radius with each step for lack of a more logical criterion), *provided* these lower-powered weapons are any easier to make and handle than the biggest ones. The table tells us these should be 100 Kt, 750 Kt, and 10 Mt. It is ridiculous to talk of using peashooter-sized weapons of 1 to 10 Kt against targets behind the enemy forces in contact. There is seldom justification for pinpoint bombing a certain dump or headquarters or yard. If the weapon cost is not significantly higher (one writer says 10 pounds of uranium for a tactical weapon and 15 pounds for a strategic one) and delivery difficulties no greater, we should always use a burst that assures plenty of damage overlap with respect to the planned target. This is because we can't locate the target very well in the first place, and our accuracy may not be good enough to fit, say, a 500-yard damage circle exactly onto a 500-yard target circle. Furthermore, the farther we move to the rear the more likely we are to find clumps of targets—hit the CP and take out the trains, too; hit the factory and take out the work-

THE SOLDIER'S HANDY ATOMIC WEAPONS SELECTOR

Size (Kilotons)	Maximum Damage Radius (Yards)	Maximum Safety Radius (Yards)	Difference (Yards)	
.0001 (200 lb)	30	100	70	Too small to bother with. Use HE.
.001 (1 ton)	65	240	175	
.01	140	430	290	
.1	300	840	540	Separation required is roughly same. Use 2 Kt.
1.0	640	1,350	710	
1.7	780	1,460	680	
2.0	840	1,540	700	
10.0	1,650	2,650	1,000	Doubles damage radius, still hits first hill.
10.5	2,000	3,100	1,100	
30.0	2,650	4,000	1,350	From here on they miss the first hill. Use them on rear areas.
50.0	3,200	4,750	1,550	
100.0	4,300	6,000	1,700	Doubles damage radius.
750	8,000	11,200	3,200	Doubles damage radius.
10,000 (10 Mt)	16,500	26,300	9,800	Doubles damage radius.
100,000 (100 Mt)	30,200	57,100	26,900	Doubles damage radius.

REUNIONS

2d Infantry Division. 19-21 July. Plaza Hotel, San Antonio, Texas. Write Reunion Committee, 214 W. Agarita Ave., San Antonio, Texas.

4th Armored Division. 28-30 June. Hotel Statler, New York City. Write Anthony J. Passanante, PO Box 42, Kearny, N. J.

5th Armored Division. 9-11 Aug. Brown Hotel, Louisville, Ky. Write Mrs. Roy S. Watrous, 8549 Lowell St., St. Louis 15, Mo.

6th Armored Division. 30 Aug. to 2 Sept. Mayflower Hotel, Washington, D. C. Write Ed Reed, PO Box 492, Louisville 1, Ky.

9th Infantry Division. 26-28 July. Hotel Morrison, Chicago, Ill. Write Stanley Cohen, Box 66, Livingston, N. J.

10th Armored Division. 31 Aug. to 3 Sept. Congress Hotel, Chicago, Ill. Write J. Edwin Grace, 172 Larch Road, Cambridge 38, Mass.

12th Armored Division. 2-4 Aug. Hotel William Penn, Pittsburgh, Pa. Write LeRoy W. Bensel, 2557 Main St., Lawrenceville, N. J.

27th Infantry Division. 10-11 Aug. Biltmore Hotel, New York City. Write Victor Backer, 480 Lexington Ave., New York 17, N. Y.

26th Infantry Division. 22-23 June. Hotel New Yorker, New York City. Write H. Guy Watts, 200 Huntington Ave., Boston, Mass.

28th Infantry Division. 27-30 June. Philadelphia, Pa. Write Leo Hafele, 4659 Fernhill Road, Philadelphia, Pa.

36th Infantry Division. 7-9 Sept. Hotel Brownwood, Brownwood, Texas. Write 36th Division Association, Box 5068, West Austin Station, Austin 31, Texas.

37th Infantry Division. 1, 2 and 3 Sept. Commodore Perry Hotel, Toledo, Ohio. Write Jack R. McGuire, 21 W. Broad St., Columbus 15, Ohio.

80th Infantry Division. 2-3 Aug. Hotel Abraham Lincoln, Reading, Pa. Write Dr. M. W. Pilgram, 114 N. Main St., Pittsburgh 15, Pa.

82d Airborne Division. 5-7 July. Sherman Hotel, Chicago, Ill. Write Don Woods, 422 W. 66th Place, Chicago 2, Ill.

84th Infantry Division. 27-29 Aug. Hotel New Yorker, New York City. Write Bernard Grimm, PO Box 229, Covington, Ky.

94th Infantry Division. 12-15 July. Sheraton-Cadillac Hotel, Detroit, Mich. Write Elbert W. Ramsey, 20068 Glastonbury, Detroit 19, Mich.

102d Infantry Division. 26-29 July. Hotel Roosevelt, New York City. Write Earl F. Hooper, 51 Highland Ave., Port Washington, N. Y.

101st Airborne Division. 31 Aug. to 1 Sept. Statler Hotel, Los Angeles, Calif. Write David K. Webster, 10346 Mississippi Ave., Los Angeles 25, Cal.

104th Infantry Division. 1-2 Sept. Hotel Morrison, Chicago, Ill. Write Dr. Joseph Lynch, 5138 S. Mozart St., Chicago 32, Ill.

National CIC Association. 3, 4 and 5 Aug. Sheraton Park Hotel, Washington, D. C. Write Secretary, PO Box 568, Church St. Station, New York 8, N. Y., or Sheraton Park Hotel.

ers' homes, too; hit the city and take out the county, too.

WE'VE figured out what burst sizes we need. Now let's finish out our "dream team" with some delivery means. Our knife-fighters wouldn't use a grenade in person, but they'd be tickled to death to have an ally drop one in the opposition's back yard, to take care of his cousins who were coming down to give him a hand. So let's apportion our A-weapons on the same sound basis. Let the infantry, eyeball to eyeball with the enemy and wrists tied to theirs, own and control the weapon most useful to themselves—the 2 Kt. Division and corps or army need absolute control of other close-support-sized weapons. The system must be at their disposal, not allowed them on sufferance as air support now is.

It would be fine if we could push a button and cause all our people to duck down for the few seconds needed for security from a friendly atomic shot. But we can't, so our delivery system, whether gun, missile, or aircraft, must be sufficiently accurate to keep suitably low the probability of the safety circle shifting over our lines. If we can't have the control and the accuracy, we must waste effort by shooting tiny weapons, or shooting at the second hill back, or even the third. The bigger weapons we could entrust to the Air Force for isolating the battlefield and hitting the enemy's ZI—for while these big babies require plenty of planning, they do not need the split-second coordination with ground units and the intensive local preparations essential to a close-support shot, nor must delivery be anywhere nearly so accurate. Special-purpose weapons should belong to their most probable users—depth bombs to the Navy, and so on.

There must be firm control of the weapons which reach the hands of the several users. There should be no possibility of a hot-headed infantry battalion commander shooting off several megatons in his front yard. However, his own A-weapon should be tailored to his needs. If we can put it in a 60mm mortar, by all means let's do so. If it must be more conventional (as A-weapons go!) let it be nonetheless a 2 Kt or a 10 Kt weapon pure and simple, with no fanciness about it. The weapon and its system of delivery are not all we need firmed up; we must have a sound employment policy. I'll not presume to advise anyone on war plans, but a few examples of past follies should illustrate what I *don't* mean us to have.

FOR over-logicalness, I cite the researcher who found that since *x* Kt will wipe out a company deployed to its maximum, and *y* Kt a battalion, and *z* Kt a regiment, and so on up, we should abolish (not redeploy or reorganize) the biggest unit a bomb known to be feasible can wipe out! If this should turn out to be the army group, said he, we just all stay home. If it is a corps, into what do we organize army? Ever see a dog chase his tail?

For inflexibility and arbitrariness, I cite the story of a friend who, as an infantry lieutenant on liaison duty with some tankers in Europe in 1944, stood beside a tank one day, right on the line of contact. The tank was armed with caliber .30 and .50 machine guns, and with a 76mm gun. My friend heard the gunner mutter over and over to himself: "Fahve oh mo' Germans, an' Ah uses the big 'un. Fahve oh mo', an' Ah uses the big 'un." He took this to mean the caliber .50, for his experience with the unit would have so indicated, but he was wrong, for suddenly a German squad appeared at the edge of a copse, and he heard: "Fo, fahve, six, *boom!*" and the blast from the 76mm all but bowled him over.

WHAT this country needs is a good close-support A-weapon at about 2 Kt, with an additional size of 10 Kt to double the effects radius and still hit the first hill. For targets farther to the rear, weapons of 100 Kt and 750 Kt, and 10 Mt might be useful, but there is no—repeat no—upper limit of military usefulness. There is no requirement for A-weapons smaller than 2 Kt. Anything smaller does not allow us to be significantly closer to the enemy when we shoot it, and their damage radii are so small as to make the use of HE preferable. Our largest HE round contains something under 100 pounds of TNT. If we are to cover that first hill with a single round, said round must be not twice, not 10 times, not 100 times, but 40,000 times the size of the HE round, or about 2 Kt.

The delivery systems required to handle our ideal family of weapons must be properly apportioned among the users, and control must be well thought out and applied with more than a grain of sense.

THE ARMY'S MONTH

(Continued from page 18)

force. But despite this the problem of strategic mobility will remain critical in view of the short supply of such craft. In this regard the statement of the Air Force Chief of Staff to the Senate Armed Services Committee is revealing. Said General Twining:

"As to the Air Force capability to move Army forces, we can now lift an [standard] airborne division, without its heavy equipment. But to do this we would have to divert aircraft from the Military Air Transport Service. And the Army would have to fight with light equipment [while] waiting for the shipment of heavier equipment. We do not have enough lift to do this job and at the same time carry out the wartime priority task of moving air forces into striking position."

Who sets the priorities?

Perhaps the most significant sentence in this statement is the last one. For not only does the Air Force intend to use aircraft to move its "forces into striking position" but it has a world-wide system of air delivery of supplies and equipment that requires a large airlift. In view of the continuing scarcity of transport aircraft the question of priority is certainly of importance to more than the Air Force. Whether reserve stockpiles of aircraft parts should be airlifted at a time when an overseas theater is in need of Army combat forces would not seem worth debating. But such choices may have to be made.

Mr. Brucker in his talk to the Civilian Aides Conference at Fort Bliss stated the Army's need for strategic airlift and the necessary qualification as to availability in one sentence: "We know that if the need arose and *we were assigned the requisite transport aircraft*, we could fly an entire airborne division, together with most of its automotive equipment and its organic artillery, from the United States to any part of Europe or Asia." The italics are supplied. And to underscore the point we quote Mr. Brucker's next sentence: "We could get our troops and equipment there in time to dominate a dangerous situation before it got out of hand."

Tactical air mobility

A "hit and run" striking force such as the 101st is to be must have much more tactical air mobility than is presently possible. This will include not only helicopters and light fixed wing aircraft for missions presently well defined but new uses for these and other aircraft that will be capable of lifting heavier loads and moving them faster. Battlefield surveillance and patrol—and scouting by "skycav" outfits will be SOP. The need for faster, more maneuverable aircraft for long-range patrolling means that the Army eventually will have to move into jet-powered aircraft—despite the Air Force's known reluctance to give the Army a helping hand in this. And without belaboring the point, the need of such an outfit as the new 101st Division for close support by fighter-bomber aircraft is not likely to be met under present conditions.

Pilots and mechanics of the 937th Aviation Company prepare to take off from a Toronto airport for Fort Kobbe, Canal Zone, in new U1-A Otters after having been given familiarization training in the aircraft by its builders, the DeHaviland Aircraft Co., of Canada

An Associated Press report on the problems of the French Air Force in North Africa is pertinent here. In the words of the press report, "French jets are not suitable for ferreting out the rebel bands that roam Algeria's mountain and desert terrain." It credits this finding to French Air Secretary Henri La Forest. The press report went on to state that the French needed helicopters and light reconnaissance planes and that the French were planning to ship "300 single-engine trainers and 100 twin-engine models which can be used as bombers."

Pertinent too is a recent comment by Clifford C. Furnas, Assistant Secretary of Defense. In a speech at Cleveland Mr. Furnas asked: "In transport, military or civilian, do we really need or want to travel as fast as we are planning to do now?" We have been so obsessed with "getting there fustest with the mostest" that "we haven't really been taking enough time to consider what we're going to do when we get there fustest, nor just what we are doing to everything else in the process of promoting speed over all else."

The mission must be performed

As the Army struggles to move ahead into the atomic-missile era it finds itself hampered by doctrinal decisions that are no longer valid—if they ever were. Clearly, the Army must have an organic aviation corps. This corps will not compete with either the USAF or naval aviation. It will be designed for those air missions that must be performed if the Army is to serve our nation. It is not too much to say that national survival may depend upon how this problem is solved.

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THE MONTH'S READING

Only Nike Is Operational

REP. DANIEL J. FLOOD
Congressional Record
22 March 1956

. . . I have been disturbed by the press stories to the effect that there is confusion as to guided missiles and antiaircraft missiles, as between the Navy missile Talos and the Army missile Nike. I think the great cities and areas concerned with this defense should know that the only guided-missile system which is now operational is the Army system Nike. The Navy Talos missile is at this time only in research and development. It is not operational. It will not be operational for quite some time. The Nike missile is in the field, is in locations, as we know, for the defense of certain areas, and these areas will be increased. It is good. It is effective. It is the best and the only one in the world today that is operational. It will be supplemented by additional Nike-class missiles of the same general type and purpose, but, in the meantime, the people of this country are not to be disturbed or concerned that there is now available another guided antiaircraft missile from the Navy, known as the Talos. That is not true. Antiaircraft operations is the delegated area for the Army, and the Army is meeting that duty with Nike actually in operation and for some time. There can be no so-called duel between Nike and Talos except in experimental areas, since only Nike is operational. Talos will not be operational for some time, and by and at that time the latest Nike will be operational. In the meantime, we have only Nike, the Army weapon.

Acceptable Limits

WILLIAM W. KAUFMANN
Military Policy & National Security
Princeton University Press, 1956

War, of course, may be limited in a great many ways and degrees. It may be restricted in point of time as, in fact, all wars are. It may be controlled as to area, number of participants, and weapons. Certain targets may be declared out of bounds. A set of rules may prevail regarding the persons who are to be regarded as the legitimate objects of military action and how they are to be treated under the varying conditions of war. Despite the talk of absolute or total conflict, most wars, in fact, have proceeded under some definite constraints. A rationale of limitations must therefore precede the choice of the particular limits that we would wish to see imposed on the conflict. Until we know what it is that we want to avoid we can hardly go about the process of avoiding it.

In this connection, it would seem that what all of us fear most is the kind of war that would place intolerable burdens upon American society as we now know it. A war which destroyed a whole generation of our manpower and laid waste our industrial capital, which distorted our political, social, and economic institutions out of recognizable shape, would be the kind of war—whatever the title we might give to it—that we would want to avoid except in the direst of circumstances. Thus the minimum limitations that concern us are those which maintain the conflict below this particular level of magnitude. Any restriction is useful and desirable to the extent that it contributes to the preservation of American society as a stable yet dynamic institution.

Given the weapons systems already available to the nations of both East and West, the limitations which meet this test are those that restrict the scope and methods of conflict. Ideally, one might wish to see a war confined as to area, targets, weapons, manpower, time, and tempo; but it seems doubtful that so many limitations could be imposed or maintained simultaneously. Probably the most we can hope and work for are restrictions of area and weapons. If we can obtain these limitations, and obtain them in locations outside the Western Hemisphere, the factors of manpower, time, and tempo may well take care of themselves. Needless to say, neat, bloodless quadrilles such as the War of the Bavarian Succession are too much to expect. To the extent that limited wars are imaginable at all, they are conceivable, not as neatly ordered and umpired con-

tests, but as rough and ready affairs, varying in their character from place to place and being played out under restrictions suitable to the particular occasion.

The Battle of Engineers

DR. JOHN TURKEVICH
Princeton University
The Saturday Review
24 March 1956

In 1954 there were 1,100,000 students in institutions of higher education in the Soviet Union, compared to 2,600,000 in the United States. In that same year there were 170,000 graduates in Russia compared to 360,000 in our country. But whereas very many of the graduates in the USA received a general liberal education, *all* graduates of higher educational institutions in the Soviet Union received a professional training. A particularly important trend must be noted in the number of graduates in engineering: the number in the USSR has risen from 30,000 in 1952 to 63,000 in 1955; in the United States it has fallen from 30,000 in 1952 to 23,000 in 1955.

Here is the *real* challenge of modern Russia.

Egg Heads Need Not Apply

THE RT. HON. THE LORD CHERWELL
Journal of Royal United Service Institution
February 1956

I remember a commander-in-chief who visited Malta. The Governor told him that he had invited some officers to meet him, and he is reported to have said, "Oh, I hope there are not any gunners. Gunners are apt to be brainy. I don't like brainy people."

Defense Is Stronger

GEN. J. LAWTON COLLINS
Foreign Affairs
April 1956

I am convinced that, when applied tactically—that is, on the battlefield—atomic weapons will help the defender much more than the attacker. So far as I know, all analyses and atomic experiments to date indicate that human beings, for all their frailties, can sustain and survive an atomic explosion better than material things—*provided* that men are dug into the ground or placed under other adequate shelter. Soldiers thus dug in and dispersed provide poor atomic targets.

Since a defender has no intention of moving forward, except in counterattack, he can and should dig in, or otherwise shelter his forces, in dispersed groupings while awaiting the aggressor's attack. Even if the enemy precedes his attack with a preliminary bombardment, using atomic weapons, the bulk of the defending forces can survive.

The defender can greatly enhance his chances if he is deployed in depth back of such natural obstacles as rivers, mountain ranges or hill masses. Gaps in such positions can be strengthened by artificial obstacles, minefields, barbed wire, tank traps and the like. Dispersed to the rear of such obstacles, covered by a light screen of observers supplemented by a reasonably effective intelligence system, the defender could afford to "sit back" and await the attack.

The enemy may similarly disperse and dig in his forces, but to get ahead *he must move*. Furthermore, if he is to make any rapid progress through or over the defender's obstacles, he must *concentrate*. When he concentrates he at once presents a highly profitable target for the defender's tactical atomic weapons. Actually, the defender can pretty well figure ahead of time the areas in which the attacker will have to concentrate both men and equipment—the places where he must build bridges, defiles in the available routes of approach, and the like. The defender can then place his atomic weapons—artillery, rockets, guided missiles, or supporting aviation—in dispersed positions from which they can quickly bring devastating fire on the attacker's concentrations.

The aggressor can thus be placed between the horns of an atomic dilemma. He cannot break through the elastic defense unless he concentrates; but if he does concentrate he faces atomic destruction.

A. Lincoln and R&D

BENJAMIN P. THOMAS
Foreword to Lincoln and the Tools of War
By Robert V. Bruce
The Bobbs-Merrill Company, 1956

Eager to utilize the North's superiority in the mechanical arts as a factor in winning the war, Lincoln made ordnance one of his special concerns during the first two years of his presidency. Thereafter, when it seemed less likely that new devices might be developed quickly enough to affect the outcome of the conflict and with weapons experiments entrusted at last to men of boldness and vision, he devoted less time to the subject, though his vigilance never flagged.

Lincoln's interest in new or improved instruments of combat embraces small arms, light and heavy artillery, rockets, projectiles, explosives, flame throwers, submarines, naval armor and mines. He was responsible for introducing machine guns and breech-loading rifles into the Union army. Wishing to render the United States independent of niter from India in the event of war with Great Britain, he by-passed the War and Navy Departments and set up a secret project, under his personal control, to develop a new explosive using a chlorate as a base. He favored the development of rifled cannon. On one occasion he narrowly escaped death or serious injury when an experimental rocket exploded in its launcher while he stood watching near by.

That many of these devices failed does not mean that Lincoln was naïve or absurdly visionary. In many instances he was on the right track but simply ahead of his time. The ideas with which he experimented were often sound, as modern warfare has demonstrated. But only with technological progress would they become practicable.

THE MONTH'S CEREBRATIONS

Consolidate the Supply Regulations

CAPTAIN Able, this is Major Supply. I had to send your supply sergeant back with your requisitions. Unfortunately, he did them up according to the regulations and not according to regimental SOP. How about straightening him out? Tough luck, fellow, but you can't resubmit them until next month."

You thank him (what else can you do?), hang up, and call in your supply sergeant to find out what he did wrong.

"Well, sir," he says, "instead of just submitting the requisitions in four copies like the regulation calls for, in this regiment you have to have eight copies. Seems battalion S4 gets two copies and regiment six. What they do with 'em at regiment I don't know, but at battalion they file two so the battalion commander can see what supplies are short in each company. Guess it would be too much for battalion S4 to go down to the regimental supply office and check the unit suspense files. I won't make that mistake again, sir, but I sure am going nuts keeping up with the regimental SOP on this supply business. I thought I knew supply, but I'll have to throw the regulations out and make that SOP my bible."

You have seen another example of a quack unit SOP intended to speed up operations so that you don't have to refer to regulations. You think about other requirements of the unit SOP. You had only ten days to take over the company property; in your last unit they gave you fifteen. A friend at another post got only four days.

You know the regulation gives you thirty days to complete the transaction and to turn in reports of survey or other reports to account for shortages. But have you ever been in a unit that allowed you the full thirty days?

The SOPs I have seen, so far as turnover of property is concerned, seem to imply that while inventorying is being done, all other activities of the unit must wait until the property turnover is completed. Could ever a company commander, on taking over, confine himself exclusively to this job?

Take the quarterly droppage, another item in this regiment's supply SOP. According to regulations on supply, a unit commander may render a quarterly droppage report of up to one hundred dollars—if no item with a unit value of more than ten dollars is included. Sounds good to the harassed company commander—but the senior unit commander can approve or disapprove the request. Yet the regulations say up to one hundred dollars, so that a company commander can account for items that might be broken in handling, like chinaware, or things that are easily lost, like a whistle.

Now suppose our senior commander is out to make a name for himself in supply economy. All he has to do is set up in the SOP a limit of ten dollars —or ten cents. Are you, company commander, going to show him what the regulation says?

As an instructor at The Infantry School said to a class on supply: "SR 735-30-1 is really a loosely written SR explaining an AR. It allows a lot of room for interpretation, and I have yet to see two interpretations that looked alike."

Why, particularly in a supply regulation that concerns all officers, is there such loose wording? Do not poor supply procedures stem from poorly written regulations? Why can't an officer or an NCO who has worked with supply regulations go from one unit to another, confident that he will find the same regulations enforced? If we had a series of supply regulations that had no room for free interpretation, many of these SOPs would go out the window, and many man-hours and reams of paper would be saved.

The supply regulations are basically good, but there are too many of them. We have AR 735-5, Property Accountability, General Principles and Policies; to explain AR 735-5 we have SR 735-30-1, Property Accountability (Supply and Property Accounting Procedures for Organizations and Units); SR 735-150-1, Property Accounting (Accounting for Lost, Damaged or Destroyed Property); AR 735-150-3 Property Accounting (Statement of Charges); and then there is AR 735-150, Property Accounting (Accounting for Lost, Damaged and Destroyed Property).

If all five were consolidated into one and all other ARs and SRs used in supply were revamped, the sudden spurt of efficiency in our supply system would be marked by less teeth-gnashing, and fewer man-hours of paperwork. Revising the current regulations is a huge job, but the man responsible for it would earn the thanks of many frustrated supply-procedure-weary people.

CAPT. JOHN J. PLOSAY, JR.

EEIs in Combat Intelligence

THE enemy situation in our intelligence doctrine is generally expressed in the term "enemy capabilities." But before enemy capabilities can be determined at any time, only two items of information are absolutely *essential*: (1) enemy location, and (2) enemy strength (personnel and equipment). With this information, enemy capabilities can be determined; without it, little pertaining to enemy capabilities can be determined.

Enemy unit desginations frequently help in determining enemy location and strength, particularly concerning units out of contact; but identifications are a desirable rather than an essential adjunct to this determination.

Disposition of enemy units is not essential for determining enemy capabilities either, for the disposition of his force may be a deliberate, or accidental, misleading action on his part. It might be deliberate or accidental counterintelligence in operation.

Location and strength of the enemy are the most important items of information the commander needs. Capabilities are determined primarily from these data, there being no other primary data from which to determine them. Possessing this information, he can determine capabilities and function intelligently; without it, he must grope in the dark.

The aircraft pilot needs to know enemy location and strength, as does the submarine skipper and the naval hunter-killer task force. Given these two pieces of information, any type of combat force—air, sea, or ground—is immediately able to perform more intel-

ligently. They are the *essentials*. All other so-called essential elements of information are not actually essential (that is, necessary or indispensable), but only highly desirable. They embellish the essentials. For any given tactical situation the essentials are always the same. The practice of designating all types of information essential, as is done in EEI, is not logical nor true, and has caused a great deal of confusion.

In establishing any military doctrine or practice, we should always remember that our military establishment draws upon civilian manpower for its wartime strength. Therefore, words, terms, and their meanings should be simplified instead of being made confusing. To do otherwise is unwise. "Essential" denotes "indispensable" to most people, but the current EEIs of intelligence jargon seldom are indispensables in the dictionary meaning of the word.

We must recognize that there are situations in which other kinds of information become highly important. When this happens, each type or piece of information desired should be stated as a specific order or request, not lumped into an EEI hopper where it can have only a "Wolf!" effect.

If further corroboration or evidence is needed concerning the true value of the foregoing elements of information, the advent of tactical atomic weapons has given it. This really brings into clear focus that which is *essential*. All discussion about intelligence in connection with these new weapons is aimed at trying to speed up intelligence techniques for determining *enemy location and strength*.

The Government is spending billions of dollars on a radar network to detect approach of enemy aircraft or missiles. This network is actually a means to determine absolute essentials; that is, enemy location and strength. The whole purpose of the Ground Observer Corps is to keep up with enemy location and strength.

One of the primary ways to improve intelligence for the tactical employment of atomic weapons is to effect a change in philosophy and attitude. Once we accept the fact that location and strength are the essential elements, then all intelligence effort can be focused on those essentials. The elimination of nonessentials will immediately make for some increase in the efficiency of ascertaining essentials.

The importance of enemy location and strength will continue, regardless of one's wishes to the contrary. This is an inevitable which should receive cooperation, and not resistance.

COL. ELIAS CARTER TOWNSEND

Flex Your Mental Muscles

WE live in a period of rapidly changing technology that is affecting military operations. A great deal of thought is being given to the attempt to keep military doctrine abreast of modern technology. New concepts are being developed and tested. Great sums of money are being spent, in developing concepts and in testing them. Despite this, there exists an attitude, quite prevalent among many officers, that doctrine is "sacred" and cannot or must not be changed.

Time and again, the argument is advanced by senior officers that such and such cannot be done within a new concept because it disagrees with current doctrine as published officially. No one seems to stop to think how fallacious is such an argument when discussing any new concept. Perhaps that is because we use the terms "concept" and "doctrine" very loosely and interchangeably. However, the terms are not synonymous, and must not be confused.

A *doctrine* is a tried and proved procedure, method of operation, or principle that has been approved and accepted by the Department of the Army. It is currently accepted as correct for both field operations and for teaching in our service schools. It is published in Field Manuals, Army Regulations, and other official publications.

A *concept* is a suggested but unproved procedure, method of operation, or principle that has neither been accepted nor approved by the Department of the Army. It is still an idea, in varying stages of development; hence, not currently accepted for field operations. However, field operations may be conducted to test a concept. It may be taught in our service schools, but only to the extent necessary to present new ideas or new trends of thinking, or to prepare students for participation in exercises involving such concept.

Keeping clearly in mind this differentiation, it becomes quite evident that no doctrine will be changed in any era unless new concepts, which differ from the then accepted doctrine, are developed and tested. It goes without saying that any such new concept must differ in some degree from the accepted doctrine.

It follows, therefore, that it is extremely illogical for anyone to argue that a certain aspect of a new concept cannot be accepted because it disagrees with current doctrine as established in official publications. Basically, every new concept must differ in certain respects from current doctrine. Otherwise it is not a new concept. If each point of disagreement within a new concept is individually changed to coincide with established doctrine, the new concept gradually becomes so mod-

THE MONTH'S CEREBRATIONISTS

Capt. John J. Plosay, Jr., was commissioned from OCS in 1949. He served with infantry regiments in Germany, and commanded a company of the 7th Infantry in Korea. He is with the 187th Airborne RCT pending activation of the 101st Airborne Division.

Col. Elias Carter Townsend, Infantry, has served in an infantry division as battalion commander and staff officer and in an army as chief of operations and plans, G3. He has been on the faculties of CGSC and AFSC, and is attending the National War College. His Cerebration is based on a chapter of his recently published *Risks: The Key to Combat Intelligence* (reviewed in December 1955).

Col. Pierre A. Kleff, Chemical Corps, was chief of the Logistics Division, G3/4 Section, FASC, during Sagebrush. During World War II he served with 1st and 12th Army Groups. A graduate of CGSC and ICAF, where he was on the faculty, he is now with the 1st Logistical Command at Fort Bragg.

Major Irvin M. Kent, JAGC, contributed "Land Convoys" in the January issue.

Lt. Jack C. Mark, TC, was commissioned from the ROTC at University of Minnesota in 1952, and has been with the public information division at Fort Eustis since 1954. He earned a BA in journalism at Minnesota.

Capt. William R. Healey, Infantry, enlisted in 1942, earned a battlefield commission in 1945, and was discharged. He was integrated into the RA in 1947, and is Deputy G2 of The Infantry Center.

ified to conform to the current doctrine that it ceases to be new, and becomes merely a rehash of the old. Such an approach to our thinking is stultifying and retrogressive rather than progressive.

To keep our Army moving and in step with technological progress, it is essential that we develop new concepts and test them. Certainly within the next decade, and probably for a long time to come, new concepts will be developed and presented for tests; and as a result, some changes are inevitable. We must be mentally prepared for them. We cannot allow ourselves to become hidebound and resist change simply by refusing to acknowledge that any new concept can differ from the currently accepted and approved doctrine. We cannot allow ourselves to get hardening of the brain, but must maintain an open and flexible mind. We cannot afford to sit blindly by, ignorantly congratulating ourselves upon our current ability and efficiency, while time and technology pass us by. Doctrine must keep pace with technology. Our mental flexibility must keep pace with both.

COL. PIERRE A. KLEFF

Second-Hand Mart for Uniforms

THE recent order that retires the Shade 33 uniform for officers and WOs except while in formation with troops serves to highlight a long-existing problem. Since World War II began, the Army has seen numerous changes in service and dress uniforms, particularly for officers. These changes have necessitated long wear-out periods that led to a great lack of uniformity and a consequent lowering of the standards of appearance. True, these wear-out periods were and remain necessary under the present system to prevent personal financial hardship. A concomitant problem has been the sale or other disposition in private commercial channels by owners of old-style or ill-fitting uniforms. Thus it has become all too common to see persons clothed partially or entirely in U. S. military uniforms, performing all sorts of menial tasks within the gaze of the general public, both at home and abroad. And alas! criminal acts have been committed while in such uniform. Many claims have been presented for acts committed by persons alleged to be our soldiers, when, in fact, the perpetrators were wearing our uniform.

It is easy enough to draft and publish a regulation prohibiting the disposal of uniforms in the commercial market, but such a regulation would merely serve to increase the financial hardship upon military personnel with each change of uniform. It would not serve to remove the temptation, particularly in distressed areas overseas where old uniforms have frequently been known to be worth more than they cost when new. However, such a regulation, combined with the repurchase plan described here, would serve to alleviate both the individual financial hardships and the deleterious effects upon the reputation of the Army.

Basically the plan is simple. All members of the Regular Army, the National Guard, and the Army Reserve, and the legatees of deceased personnel should have the opportunity at stated places and times of bringing in articles of uniform which have been declared obsolete, or no longer fit, or have faded, or been damaged or are for any reason no longer needed or wearable. This should be limited to articles of outer clothing, including shirts. Representatives of the Quartermaster Corps would be on hand with appropriate price lists and guides to place a value on the articles turned in. Roughly, such valuation would fall into three categories: (1) for which the highest prices would be paid, in a condition suitable for immediate reissue either to our own troops or to those of a friendly nation whom we supply; (2) usable after dyeing and removing military buttons, for wear by military prisoners, POWs or others; (3) clothing having only scrap salvage value. Upon such evaluation, the person turning in such items is issued a voucher good only at QM clothing installations for purchasing items of uniform for himself of currently authorized types, or cashable at a finance office in certain limited circumstances.

Under such a system, long wear-out periods need not be prescribed, and the processing, dyeing and packing of turned-in clothing could be done by military prisoners working at depots set up in or near disciplinary barracks.

No doubt there will be some objection on grounds of cost. However, I believe that when the scheme is viewed in its true light, it will be seen that actually there would be little or no expense to the Government. For one thing, a tremendous number of items will be turned in in such a condition that they can be used again immediately, or issued to troops of friendly powers. Also, the problem of clothing military prisoners and POWs could be solved in large measure without extra expense or without issuing new clothing. Thirdly, arrangements could be made with other governmental departments on a reimbursable basis: for inmates of federal prisons, for emergency stocks for disaster relief, for issue as standard Government uniforms for chauffeurs, building guards, civil defense units, and other persons who wear uniforms. Salvaged scrap could be sold through the commercial market at prices offered by turn-in centers.

To make the program effective, turn-ins must not be limited to items originally purchased from the QM. Items bought from firms, post exchanges, or tailors should also be accepted, because when worn by unauthorized persons such uniforms have the same bad effects as those originally issued.

Cash need not be paid out except in relatively small amounts by persons retiring or leaving active duty, or by legatees. In such cases vouchers redeemable at a finance office should be issued. The good effect upon morale and the preservation of the Army's good name should be worth many times what the program costs.

MAJOR IRVIN M. KENT

Training NCO Platoon Leaders

THE shortage of officers, especially in junior grades, will always be a problem. At many installations the shortage may become critical enough to seriously affect training. However, it might be overcome if the Army adopted the NCO Platoon Leaders Course program tried out at the Transportation Training Command at Fort Eustis.

At the time of its inception, other commitments had left the TTC with a shortage of junior officers. The course was designed to ease a critical shortage of commissioned platoon leaders within TTC. Selected outstanding senior NCOs were instructed in the fundamentals of platoon leading, so that they could take over a platoon and lead it satisfactorily. The course graduated two classes of men qualified to serve as platoon leaders for a year.

Major unit commanders were directed to encourage voluntary applications, and the School prepared a course. Candidates were selected by a board

composed of officers of the post's general staff and representatives of all major units in TTC. To qualify, the volunteer noncom had to meet these standards:

¶ Be highly recommended by unit, battalion, and major unit commanders.
¶ Be in grade E-6 or E-7.
¶ Have a high-school education, or an equivalent determined by the GED test.
¶ Have scored 110 or higher on Aptitude Area 1.
¶ Have a statement by his CO attesting to his character, conduct, and soldierly qualities which would warrant his being considered for assignment as platoon leader.
¶ Have demonstrated positive leadership qualities, be able to express himself clearly and to think logically, to make decisions, and have the force of will to execute them, as well as exhibiting poise and confidence before others.
¶ Be free of conviction by any type of military or civil court other than for a minor traffic violation.
¶ Have completed the NCO leadership course or have attained a like degree of proficiency through performance.
¶ Be imbued with unquestionable loyalty and dependability.
¶ Be under the age limit for first lieutenants. (Major commanders could grant waivers in exceptional cases.)
¶ Meet the minimum physical requirements for appointment in the Army Reserve.
¶ Successfully complete a course conducted by The Transportation School on leadership and military training immediately after nomination by the TTC selection board.

The course's 56 hours included 15 in common subjects, 8 in leadership, 11 in training management, 10 in training methods, 10 in study time and practical inspections, and 2 for opening and closing exercises.

Subjects covered were military courtesy, Army Reserve and extension-course programs, military justice, character guidance, TI&E, military psychology and leadership, morning reports and individual records, property and supply, military training programs and management, and methods of instruction.

The course was on a junior-officer level and was conducted by officers. Students were housed in special barracks, regardless of marital status or previous quartering. Clothing, personal and barrack inspection was conducted on a level with that of any OCS.

Graduates were returned to their original units, where they were reassigned as platoon leaders. These NCO platoon leaders wore a maroon-and-gold patch on each shoulder. They actually commanded the platoon and, depending on command prerogative, performed the same duties as an officer serving in the same capacity. They were excused from all roster-type NCO duties but had to serve as officer of the day, officer of the guard, and duty officer.

Special credentials and car insignia gave them the usual privileges granted officers on post and at the main gate. After a year on the job, platoon leaders were allowed to qualify for commission in the Army Reserve under existing regulations.

Such an NCO platoon leader program, if universally adopted, could ease the shortage of junior officers now plaguing many Army installations.

LT. JACK C. MARK

The Infantry Private of 1970 (Fiscal Year)

THE smartly attired young gentleman, wearing a conservative business suit, brown suede shoes, and soft gray felt hat (distinguished by an RCS number neatly stencilled in black), was interrupted as he emerged from the elevator. "Jones," barked the platoon sergeant, "do you know you were in the latrine for eleven minutes? Make sure an entry is properly posted on your time sheet, to reflect Non-Productive Time. Do you realize that your performance standard may have to be revised because of this?"

"Well, Sergeant," Jones began, "my programming schedule indicates that the average workload, under standard man-hours, of course, as indicated in the last review and analysis report, will—"

"Hold on, Jones! Pull out your efficiency handbook and let's just check—damn that word—survey your record."

Jones reached smartly into left breast pocket (especially designed for this purpose by a production engineer who received a thousand dollars for the suggestion) and extracted a formidable-looking folder.

"Aha!" exclaimed the Sergeant. "Just as I suspected! Your management improvement manual, work simplification pamphlet, midrange estimate, budget presentation and program procedural manual are OK, but your flow process chart hasn't been posted since breakfast. Do you realize the consequences of such neglect?"

"But—"

"Not another word, Unit Jones. We shall examine—dammit—survey your individual progress report.

"Hmm! Let's see what we have under Mandatory Training. You seem to be all right. Manual of the Adding Machine, Character Guidance, TI&E (Effect of U. S. Peanut Oil Production on Street Car Traffic in Saigon), Code of Conduct, Escape and Evasion, Chaplain's Hour, Security Clearance for Left-handed and Naturalized Eskimos, Voting Orientation, Safety Lecture, Income Tax Briefing, Evacuation of Supply Records in Event of Air Attack, Censorship, Dosimeter and Geiger Counter Drill, Economy of Motion in First Aid and Evacuation of Wounded, Military Government Responsibilities, Posse Comitatus Indoctrination, Price of Aircraft Recognition Practice, Double-Entry Bookkeeping Briefing, Management Improvement, Review and Analysis, Effect of VD on National Economy, Preliminary Rhumba Instruction, Survey and Procurement, Cost and Control, Speed Reading, Congressional Reporting, and Civilian Manpower Utilization.

"Your pedometer report appears to be consistent with your programming schedule, but when was your last motion inventory posted?

"Jones, these things are vital. That's the trouble with this army. We still have people who cling to the old antiquated phrases of Shoot and Salute instead of progressing with the new look version—Record and Report.

"Your security tattoos are OK, I believe. Let's see: USA Eyes Only, Official Use Only, Confidential, Secret, Top Secret, Very Secret, Most Secret, Very Topmost Secret, Don't Think About it, and Suicide Immediately after Reading."

The Sergeant handed back the records to Jones, and said: "Jones, I guess you're a pretty good unit after all. In about six months we'll start integrating a little close-order drill, marksmanship and other nice-to-know subjects. In the meantime, don't forget to know that chain of comptrolling tonight before you go on inventory duty. That OD—dammit, I mean temporary custodian—is tough!"

CAPT. WILLIAM R. HEALEY

Significant excerpts from a book that documents the Army's story

MILITARY POLICY and NATIONAL SECURITY

CHAPTERS AND AUTHORS

THE REQUIREMENTS OF DETERRENCE
By William W. Kaufmann

STRATEGIC DOCTRINES FOR NUCLEAR WAR
By Roger Hilsman

PASSIVE AIR DEFENSE FOR THE UNITED STATES
By Klaus Knorr

LIMITED WARFARE
By William W. Kaufmann

MILITARY POTENTIAL IN THE NUCLEAR AGE
By Klaus Knorr

COALITIONS AND ALLIANCES
By Roger Hilsman

NATO AND THE NEW GERMAN ARMY
By Gordon A. Craig

FORCE AND FOREIGN POLICY
By William W. Kaufmann

MILITARY POLICY AND NATIONAL SECURITY. Edited by William W. Kaufmann.© Princeton University Press, 1956. 274 pages; Index; $5.00.

THIS new book, published by the Princeton University Press, is an able and objective evaluation of the national security problems that face the United States today. In the words of its editor, the book argues:

"The use of force has always involved great and tragic costs, but only recently has it come to foreshadow the possibility of complete and utter catastrophe. Since the urge toward self-destruction is less than universal as a human trait, military means—barring their abolition—will probably have to enter an era of political as well as technical specialization. Because of the potential destructiveness of nuclear weapons, what may be right and proper in the way of strategy and forces for one type of situation may prove quite inappropriate for another type. In these circumstances we can no longer afford, whether for deterrence or for conflict, to rely purely and simply on a system of alliances armed with the most modern means of mass destruction and designed solely to fight on a very large scale and in one particular manner. The new conditions have rendered that response at least partially obsolete. Nuclear weapons systems have permitted the development of a whole range of possibilities for military action; and these possibilities require both differentiation of treatment and specialization of tools. The patient, in fact, is in danger of being attacked by a number of diseases and there no longer is any sovereign remedy to cure him. To attempt to find one, or to apply indiscriminate bloodletting, will be in all probability to sign his death warrant."

Lieutenant General James M. Gavin says this about *Military Security and National Policy:*

"This is the Army's story. Not intentionally so, on the part of the authors, one can be sure. But it is, nonetheless. It examines, coldly and impartially, the military requirements to support our national policy. It considers the capabilities of all services, both atomic and non-atomic, and relates them to the demands that will be placed upon them. No single service will be pleased with every conclusion and no single service can deny the authors' objectivity and thoroughness of examination. The conclusions should be read by every soldier who will some day fight our nation's decisive battles, on the land. The conclusions should be enunciated to the military and civilian alike, that we all may better understand the military needs of our country today and tomorrow. Thus will we ultimately have the weapons systems that will be our servants, not our masters. Thus will our nation survive."

Because of its searching, dispassionate examination of these problems ***ARMY*** magazine recommends the book to its readers. Because of its value we have selected excerpts from several of its chapters for publication on the following pages.

MAKE THE PUNISHMENT FIT THE CRIME

William W. Kaufmann

OUR problem is to find deterrents that forecast costs sufficient to discourage the enemy, but not provocative enough to make him turn, out of fear and desperation, to contingencies of the last resort. We must, in a word, try to fit the punishment to the crime. This is much more difficult in the international arena than in domestic society. But it is by no means impossible.

It is probably in the military realm that the richest resources of deterrence still lie. If we show a willingness and ability to intervene with great conventional power in the peripheral areas, after the manner of Korea, we will have a reasonable chance of forestalling enemy military action there. Admittedly this suggests offering to compete with the Communist world on terms apparently favorable to it. But are the terms as favorable as they seem at first glance? Our effort in Korea was smaller in size and probably less costly in terms of human and material resources than the Communist commitment. And it was the Communists who finally became eager to terminate the conflict. The charade at Kaesong and Panmunjom has made us forget that, in the face of "Operation Killer," Mr. Jacob Malik, the Soviet representative on the Security Council, discovered that the idea of a truce had its attractions after all. Even if the debacle of Indo-China has corroded our reputation, the Communists cannot have discarded entirely the memory of the Eighth Army under Generals Ridgway and Van Fleet.

LARGER FORCES, TRAINED AND READY

Roger Hilsman

THERE is, in sum, no reason to believe that [a nuclear] war could serve the interests of either side, barring only the possibility that one side or the other achieved a technological breakthrough that gave it a great advantage, or that one side or the other failed to make the necessary preparations. No nation could win an all-out war in the sense of avoiding a disaster at bearable cost—defeating an aggressor, for example, while retaining its existing social structure, the bulk of its population, and the capacity to regain within a predictable number of years its former level of prosperity.

But even though it would be impossible to "win" an all-out nuclear war, it might still be possible to "lose" one—in the sense that, in addition to suffering the casualties and destruction of nuclear warfare, a nation might also be invaded or forced to capitulate and submit to occupation. If after the initial exchange of nuclear weapons one side retains enough of the apparatus of control, the carriers, and stockpile to continue to deliver bombs, even if only intermittently, the side lacking these would have no choice but to capitulate, providing it still had the capacity to reach, transmit, and enforce decisions. A similar situation could arise in ground fighting. With casualties so high and the range of destruction so great, the chain of command might well break down, leaving either a guerrilla war of small roving bands or possibly a state of apathy in which the survivors simply stopped fighting and made their way home individually. In any event, the situation would tend to be anarchic, and the side that retained some unity and cohesion could probably move its remaining units forward into occupation and control without encountering more than sporadic and haphazard resistance.

When added to the casualties and destruction to be expected from an all-out war, invasion and occupation may seem minor ills. There is something to be said on the other side, however, and although the first aim is to avoid a nuclear war, to many people the second may well be to keep from "losing" it if it does come. If this is the goal, the requirements seem rather clear, at least for the present.

WILLIAM W. KAUFMANN, Assistant Professor of History and Research Associate in the Center of International Studies, Princeton University, was the editor of *Military Policy and National Security* in addition to contributing three of the chapters plus the introduction. He is now with the Rand Corporation.

The first point to be made is that when both sides have nuclear weapons and the carriers to deliver them, the wisest course seems to be to base our preparations on the assumption that all three arms will be essential. The first priority is clearly a strategic air force—including, in order to obtain the maximum in flexibility and diversity, a place for the Navy's aircraft carriers. But the mere fact that there are possibilities for conquering in both land and air warfare means that if there is a general war in which nuclear weapons are used without restriction, it will in all probability be fought with all weapons, on the ground and at sea, as well as in the air.

The second point to be made is that although it is as yet too early to tell for sure, there seems to be nothing in the facts of nuclear weapons, or in the attempts to work out the military doctrines appropriate to those facts, to indicate that fewer men will be needed on the ground rather than more. If the enemy is to be forced to concentrate sufficiently to form a target for nuclear weapons, troops will be needed all across the front in just about the same quantities, so far as anyone can now tell, as they would in conventional war. Of course, the defender in conventional war never needed to match an enemy man for man, and there is no reason to believe that nuclear war would differ in this respect. But the defense of any given theater of operations against an enemy who is rich in manpower is still likely to require a certain number of divisions, determined by the length of front, terrain and natural obstacles, and density of road and rail networks. No one can name an exact number; still, the general level of

forces needed for a given piece of terrain in usually rather obvious. In Europe, for example, the NATO military planners estimated the requirements for a conventional war at about one hundred divisions, which was enough to cover the different routes of attack and also provide for a strategic reserve. Five to ten divisions or even ten to twenty divisions over this figure would probably not, by themselves, spell the difference between victory and defeat in a battle against an enemy with strength. Below the minimum number required to cover attack routes and provide a reserve, however, five to ten divisions may well make the difference, and ten to twenty are very likely to. If some attack routes are left undefended or are only lightly screened, or if the reserve is inadequate to deal with a penetration, the enemy is left with too much freedom, too many alternatives, and disaster is almost inevitable. A number of divisions adequate for a given theater does not guarantee security; war is a fickle business and leadership, morale, and even luck are too often decisive. But no amount of leadership, morale, or luck will save an army that is grossly understrength relative not only to the enemy but also to the ground it must defend, and this is likely to be as true for nuclear as it is for conventional war. Indeed, if anyone ever does win a battle in which nuclear weapons are used without restriction, it will probably be because his opponent is in precisely this situation of having too few forces for the ground as well as for the enemy.

Besides needing just as many forces in a nuclear war, we also probably need to have a higher percentage of these forces ready and in position before a war starts. In fact, the extent of damage to ports and communications routes to be expected from nuclear weapons, and the high state of readiness of the Soviet forces, may even make it necessary for us to fight the whole war with the troops we have on the line when the war begins.

All this means that, far from reducing the burden of military preparations, nuclear weapons have probably increased it. Bigger air forces, bigger armies, and bigger navies all seem to be needed, and the equipment for these forces is much more complicated and expensive than ever before. The cost of all this is very high, and every nation has the right to weigh costs against risks and decide the point at which it would prefer to live a little more dangerously rather than make a further sacrifice. The consequences of nuclear war, however, are severe—more severe, in all probability, than we can effectively comprehend—and if there is any validity at all to the proposition that by being prepared for war we are better able to prevent it, most of us would be willing to make whatever sacrifice is required.

INFANTRY: PRE-EMINENT IN LIMITED WAR

William W. Kaufmann

IN the event of war, American military strategy immediately becomes a crucial factor in determining whether or not the conflict will be conducted within satisfactory limits. The precise strategy to be followed will of course vary with the circumstances. But there are several general principles regarding action on the battlefield which appear to be applicable regardless of the particular situation. While we must aim for efficient resistance as quickly as possible, we should avoid either expanding the theater of operations or introducing weapons of unconventional power and consequence. Our actions should symbolize the intention of the United States to confine both the conflict and the issues over which it is being fought within the narrowest limits commensurate with the security and tactical initiative of our forces. But within these limits the objective should be to inflict heavy and continuing costs upon the enemy's forces. Annihilation of these forces should, if possible, be avoided; a more effective impression is created by the attritional strategy instituted by General Ridgway in Korea. "Operation Killer" (an unfortunate name) served the purpose of inflicting enormous casualties on the Chinese in a way that permitted the enemy to see the process of deterioration setting in, yet gave him the opportunity to contemplate the alternative of a truce. As the pressure on the battlefield rose, that alternative became more attractive; and had the military operation continued yet a little longer, a truce might well have emerged at an early date and on terms satisfactory to the United States.

If all this suggests an unorthodox strategy, quite out of keeping with the traditional aims and actions of the military arm, it must be remembered that the type of war envisaged is quite unorthodox, too. The basic assumption for this kind of conflict—and it is one that appears to correspond accurately with reality under existing conditions—is the assumption of a calculating individual with a multiplicity of values, aware of cost and risk as well as of advantage, and capable of drawing significant inferences from symbolic acts. On this assumption, although wars may still be fought, they perform a function midway between the abstractness of a show of force and the terrible concreteness of annihilative conflict. They become partial or token tests of strength, limited in scope, destructiveness, and time, and limited accordingly in political significance.

In such wars, the nature of the weapons is perhaps as significant as the strategy insofar as effecting limitations is concerned. And they are significant for the same reasons. This being the case, there are certain criteria that the weapons of limited warfare should satisfy. They should be able to perform their mission effectively within a limited geographic area; they should permit of discriminating and precise employment; and they should be accepted as normal and conventional to the occasion. The forces that meet these standards to a pre-eminent degree are the infantry and their supporting weapons, and the tactical air forces. In other words, the effective conduct of limited warfare places a heavy premium on those weapons—whether of the Army, Air Force, or Navy—which permit us to operate against the spearhead and immediate communications of the enemy rather than against his sources of supply.

Whether or not to use nuclear weapons on the battlefield is a much more complicated problem, especially since a whole dreadful family of them has been bred. It is arguable, of course, that a man is no more dead for having been killed with nuclear rather than with more conventional types of firepower. But despite this it must be recognized that nuclear weapons possess unusual properties. Moreover, they appear to lack discrimination in their choice of victims, despite arguments that they can be delivered with pinpoint precision. And finally, because of their capacity for large-scale slaughter, they may be able to cause such

sudden and startling reversals of military fortune as to increase the uncertainty and irrationality that are always so pervasive in conflict situations. Because of these endowments, whether justified or not, obvious dangers are attached to their use. If we employ them on the enemy, we invite retaliation, shock, horror, and a cycle of retaliation with an end that is most difficult to foresee.

Moreover, it remains to be decided whether it is actually to the military advantage of the United States to launch the use of nuclear weapons. Most discussions of the subject have started from the premise of an American monopoly in this realm. But, given the assumption of Soviet-American parity, it is easy to imagine situations where the forces of the United States rather than those of the enemy would present the more vulnerable target to instruments of widespread destructive power.

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But since the Russians are now approaching parity with us in nuclear stockpiles (at least for all practical purposes) and in delivery systems, it would seem desirable to consider forgoing the use of atomic weapons for tactical purposes, so long as one of the objects of policy is to keep a conflict limited. An obvious exception to the rule is where the enemy employs them first.

WHETHER or not we can actually follow the rule of abstention in practice will inevitably depend on the availability of more conventional military resources. So, in all probability, will the degree of control that we can exercise over the magnitude of any given conflict. Quantity and diversification of means, therefore, are two criteria that a military establishment must meet if war is to be conducted in a controlled and limited fashion. The more the establishment depends on one type of weapons system and one type of strategy, the less flexible it will be and the more the military tail will wag the policy dog. For a nation resting on the highly specialized power inherent in nuclear weapons will either have to become the creature of events or else be prepared to convert every crisis into an annihilative war.

What should constitute the precise magnitude and balance of forces cannot be argued here. Nevertheless there are good reasons for believing that a policy of limited warfare will require large-scale conventional forces. This does not mean that we have to match any potential antagonist man for man in order to decrease our dependence upon nuclear weapons. There is, after all, a finite number of places where an enemy can operate effectively at the present time, and there are serious political and technical obstacles to his attacking in more than one of them at any given moment. Both the Chinese and the Russians showed an awareness, during the Korean war, of the response that would attend a series of brushfires and refrained from provocative acts outside the theater of war. Both have suffered from limited mobility and logistical facilities. And even where they could focus and concentrate their energies, as in Korea, there were limits to the number of men that they could make use of on the peninsula. Despite what may be a comparative disadvantage in manpower, the United States should still be able, with the help of indigenous forces, with mobility, well-organized logistical facilities, great conventional firepower, and highly trained central reserves, not merely to match but actually to beat the enemy at this type of game.

THAT the costs and risks of a policy of limited war are particularly painful, needs the most emphatic statement. A first and desperate cost is the loss of life that such a policy involves.

The best assurance of reasonably low human costs is adequate preparation. And adequate preparation means incurring a greater economic cost for the military establishment than that to which we are presently committed. That an increased military budget could be supported by the United States is perhaps best illustrated by the changes of attitude toward the subject since 1945. Where before Korea it was argued that an annual appropriation of $13 billion was the limit that the national economy could stand, we [now] find that we can actually support a military budget nearly three times as large as in the days before Korea.

A less tangible cost, but one that could prove more aggravating even than the human and economic costs, results from the constraints upon accustomed behavior that a policy of limited warfare imposes. All the emotions traditionally associated with war must be inhibited.

The risks accompanying a policy of limited warfare are no less weighty than the costs. Since we effectively surrender the strategic initiative to the enemy by such a policy, we run the risk always of suffering sudden, serious, and conceivably fatal injury before we are able to throw the full weight of our power against him. But actually we have been running this risk for quite some time. By rejecting the alternative of preventive war, by refusing to employ force to change existing territorial dispensations, we have conceded to the enemy the advantage of striking the first blow ever since 1945. A policy of limited warfare simply underlines a risk that the nation has long accepted. At the same time, inherent in the policy are the means of reducing the danger. For the existence of a limited war not only places us on the alert against the possibility of surprise; it also institutes a posture of deterrence which, if carefully designed, should militate against any further change in the character of the conflict.

It has been said that if an issue is important enough to warrant fighting, it must be important enough to warrant a fight to the finish. But such an argument assumes that every armed conflict is bound to continue until it develops into an annihilative war; it ignores the possibilities of limited military action. Adequate preparations and a carefully plotted military and diplomatic strategy permit a testing of enemy capabilities and intentions at limited cost. And they avoid a complete foreclosure of the future.

What emerges is that a policy of limited warfare is not likely to be one of unlimited application. Nor is it one that we would find advisable to launch except under conditions that should make it bearable to allies and neutral states alike. The factors of geography and resources, and the desirability of having an issue on which we can comfortably take a stand, may well restrict the number of areas which will lend themselves to this kind of action. However, where the limiting factors do not operate, we should find it possible to control Communist infiltration and aggression without intolerable cost or risk.

WHETHER the United States has the capacity to prepare for and conduct a policy of limited warfare is a question to which there can be no simple answer. It should be quite clear that such a policy, to be effective, must impose a number of complex requirements upon us. It demands that our peacetime foreign policies be adjusted to take account of this contingency. It dictates limited military objectives and great care in the choice of strategies and weapons on the battlefield. Off the battlefield it calls for a delicate combination of powerful deterrents, tactful diplomacy, and limited policy aims. Both in preparation and in execution it involves burdensome costs and high risks.

There is good reason to believe that a policy of responding to local Communist thrusts by means of a policy of limited warfare is not only possible in principle, but is politically feasible as well. Its attractions may not outweigh those of the other alternatives available to us, but the costs, risks, and constraints that it imposes seem much more tolerable given the enormity of the issues that are at stake. Limited war, admittedly, requires different attitudes and expectations than we have become accustomed to; but, despite its handicaps, we gain more freedom than we lose. True, we give up the concept of victory in its traditional meaning. We discard the idea of punishing aggression. We accept limits on our military and general policy objectives, and, in effect, we accept existing political and territorial arrangements. But, in return, we obtain a passage between the Scylla of nuclear holocaust and the Charybdis of interminable retreat. Granted that the passage is a dangerous one, under existing conditions surely it is worth the risk.

INDUSTRIAL POTENTIAL *PLUS* READY FORCES

Klaus Knorr

WAR potential appeared to play a decisive part in the two world wars, as in the American Civil War, because these were essentially wars of attrition. In neither contest did one side have enough mobilized strength to force a quick decision at the outset, and in neither were the war aims of the opponents moderate enough to make a war of attrition appear unnecessarily burdensome and permit an early settlement of the military stalemate. In both world wars, moreover, Great Britain and the United States were protected by the sea and by their naval power. They were immune to defeat in the opening phases of war and had time to mobilize their potential capacity.

At this juncture in history, many military planners believe that wars of attrition are a thing of the past and that war potential has therefore become an irrelevant factor in military capability. Only forces in being at the outbreak of hostilities will count. This reorientation has occurred as the full implications of nuclear weapons, developed in the United States and Soviet Russia, have become clear.

The case against war potential as an important element in military capability is no stronger than its premises. These premises are two predictions. According to the main prediction, the universal fear of immense mutual destruction by hydrogen bombs, and the equally universal fear that major and prolonged hostilities cannot be safely limited to less lethal weapons, will make the occurrence of anything but small and local wars extremely improbable. According to the supporting prediction, this expectation,

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and the appalling burden of preparing for more than localized engagements and all-out nuclear conflict, will leave nations unprepared to fight large wars of attrition. This orientation tends to reinforce the major prediction.

PREDICTIONS cannot, of course, claim more than plausibility; and there is a good measure of plausibility in these forecasts. But are they plausible enough to become the sole basis of defense policy? Not much speculation is needed to support a reply in the negative so far as the major prediction in concerned.

It is conceivable that unrestricted nuclear war might be precipitated by a power which, owing to a striking scientific advance, had gained relative invulnerability temporarily. But so long as all-out nuclear conflict means mutual destruction of anywhere near one-third or more of each belligerent's population, and of anywhere near one-half or more of each belligerent's capital assets—and this is the expectation for the foreseeable future—it is not reasonable to assume that such a war will be precipitated by either the United States or the Soviet Union except as an act of utter despair. While it is certainly plausible that the inhibition will make both powers reluctant to unleash any major war for fear that it will sooner or later degenerate into one of mutual and certain disaster, is it not also plausible that this powerful inhibition will render the effective limitation of near-conventional war dependable?

These predictions do not at present command sufficient plausibility to justify the abandonment of war potential, or industrial potential, in the calculation of military power.

Potential may well remain an important factor in power relationships.

Should limited hostilities involve resort to nuclear weapons against military targets, but only against military targets, the risk of annihilation on the battlefield is likely to prohibit the gigantic massing of troops that took place during the last two world wars. However, if this prospect implies a lesser mobilization of manpower for use on the battlefield, it does not at all imply a lesser utilization of manpower and other resources for making, transporting, and servicing the means to fight. It is clear that future war, should it come, will be more capital-intensive than ever. The value of equipment for the fighting men will be exceedingly high.

To conclude, it is premature, to say the least, to discard the concept of war potential even in its narrow version of economic or industrial capacity. However, when it comes to American defense policy, the retention of this concept might indeed do harm if it were misapplied, especially if it should lead to an inadequate maintenance of mobilized strength. To the extent that victory in a war of attrition rests on industrial capacity, the United States is in a very strong position, and prewar efforts at improving this potential need to be no more than marginal. Yet American defense policy cannot place all its bets on this particular component of military strength, for a war of attrition is only one type of war that might occur. The other types—all-out nuclear war and localized contests in the "gray areas"—clearly require adequate mobilized power at the moment they begin.

NUCLEAR WEAPONS FOR ALLIES

Roger Hilsman

WHILE there is no denying that to include nuclear weapons in military aid may be to open Pandora's box, in spite of this, the step may soon look much less radical than it does now. As nuclear technology develops, which it seems to be doing rather rapidly, these weapons may come within the skill and capacity of even rather small nations. The atomic piles being built in some of the smaller countries for peaceful purposes will probably hasten the process by which their knowledge and skills in nuclear technology are increased, and the piles themselves might well be susceptible to being converted into weapons. In the case of our allies there are also other factors that tend to bring the day nearer when a nuclear arms aid might seem normal or even imperative. As more nuclear weapons and a greater variety of them become available for ground force use, and as tactical doctrines are developed for fighting atomic battles on the ground, it is likely that these weapons will need to be integrated more closely with the fighting units they support and with units lower in the military hierarchy—divisions, regiments, and battalions, rather than corps and armies.* It will therefore become more and more difficult for American units to give our allies timely and adequate support with nuclear weapons and more and more necessary for them to have their own weapons within their own organizational structures. Sooner or later, in other words, these weapons will probably have to be an integral part of every fighting unit and at that time, which may be rather close, each nation will need to man its own weapons in its own fighting units. All these possible trends, in sum, seem to indicate that an arms aid that includes nuclear weapons may soon appear unexceptional. No one would suggest action today or necessarily tomorrow. But if the day of nuclear aid is indeed coming anyway, it may be wise to anticipate it in a larger policy that will contribute to our capabilities both for deterring anyone tempted to begin a war and for restricting any wars that do come.

*As this process goes on, it is also likely to become more difficult for a unit to switch from one kind of war to another. For a time at least, this will probably tend to be a one-way street in the right direction; that is, a unit equipped and trained for nuclear war will still be able to fight a conventional one, but not the other way around. But as both the tactics and equipment for nuclear war, especially defensive equipment, become more fully developed (which also means, in all probability, more complex), it will tend to become more and more difficult for troops trained in nuclear war to fight a conventional war, or at least more difficult for them to fight a conventional war and still retain the capacity to fight a nuclear one.

STRATEGIC CONCEPTS OF WESTERN GERMANY

Gordon A. Craig

THE successful integration of German forces into NATO will depend on the confidence which the Germans have in NATO's strategy; and we can expect serious strategical discussions with the Germans. Indeed, the temper of the Bundestag suggests that if we wish to see an effective German contingent in NATO in the near future, there may have to be some fundamental changes in NATO strategy.

And this will probably be a very good thing. Western military writers have often accused the German army of 1905-1914 of having adopted the most inflexible strategical plan in military history, the Schlieffen plan, which called for a wheeling attack through Belgium and against France no matter where or how war broke out. The Germans would be justified now in claiming that we have improved upon their model, for—if we can believe the utterances of some if its representatives—NATO has only one strategical plan. Whether the aggressive Eastern force is composed of the massed armies of the Soviet Union or only of the *Kasernierte Volkspolizei* of East Germany, whether it employs atomic weapons or restricts itself to conventional arms, once hostilities commence the NATO forces become mobile and start firing atomic cannon. In the event that the attacking force is not using atomic weapons, the allies thus—as General Ridgway pointed out in the persuasive letter which he wrote before retiring as Chief of Staff of the U. S. Army—incur the onus of resorting to their use and leave the enemy "no choice but to respond in kind."

Even if it did not appear that the Germans would insist on our doing so, we should be well advised to take a new and critical look at this strategy. The necessity of having the German divisions raised and added to the Western coalition as soon as possible merely strengthens the reasons for reexamination and, particularly, for the preparation of strategic plans for a broader range of contingencies than NATO seems presently prepared to meet, for a modification of the forward strategy to provide for real defense at the zonal border, and, above all, for the most searching

kind of reconsideration of the December decision on the employment of atomic weapons at the outset of hostilities.

THE ROLE OF MILITARY POLICY MAKERS

William W. Kaufmann

A FIRST attitude that we may want to modify—as, in fact, we are already doing—is the attitude which assumes a great rigidity on the part of strategic doctrine and assigns very narrow functions to military means. We need to substitute the realization that, accorded adequate analysis and resources, the military instrument can become more the servant than the master of foreign policy. This is not to say that warfare can be divested of cost and risk, or that military means can be applied with infinite flexibility. But it is to argue that warfare, even under present conditions, can be returned somewhere near to its traditional place as politics pursued by other means. Thus, the prospect of military action need frighten us away from the achievement of desirable goals only when the resources of the armed forces are so specialized, and strategic doctrines so hidebound, that the statesman confronted with a crisis finds himself seriously limited as to the objectives he can pursue by military means.

GORDON A. CRAIG is Professor of History, Princeton University. A student of German military affairs, he was an editor of *Makers of Modern Strategy* and has written several books on related subjects, the most recent being *The Politics of the Prussian Army, 1640-1945*.

We may also find it necessary to change our attitudes toward the functions and products of military technology. The adaptation of policy to new weapons has always raised difficult problems, and it is hardly surprising that nuclear bombs and high-speed delivery and defense systems should be causing debates of the most intense and passionate character at the present time. After all, the issue is not merely how to use particular weapons; it is, given the present state of scientific knowledge, what weapons can and should be developed in order to satisfy existing needs. In a period of great ideological divisions and widely shared technological and scientific skills, the United States cannot afford to ignore any potential military advantage, however obnoxious it may seem. But research, development, and even production do not mean that strategy must employ the results. There is no imperative that requires us to utilize the weapons we have invented, whatever the historical record. On the contrary, the problem—and it may be unique—is how to manage our affairs skillfully enough to avoid the more terrible of these weapons and still uphold the essential interests of the United States.

Although much has been made of the assumption by military leaders of posts usually held by civilians, very little has been said or written about the extent to which civilian advisers of one sort or another have infiltrated the various branches of the military establishment. But the question remains whether this second process has gone far enough. Where even tactical decisions may be fraught with the weightiest political consequences, can we afford to leave them decentralized in the hands of military commanders imbued with a technical and specialized orientation and spirit, or must we arrange some alternative form of control, some system which permits even tactical decisions to be subjected to the broadest possible political-military scrutiny?

THE question has no easy or final answers; here, at best, it can be raised and considered. And in examining it, several points need to be held in mind. The integrity, devotion, and skill of the military establishment is surely too precious an asset to be thrown away without the most serious cause. The armed forces not only have made a remarkable record for themselves under very trying conditions during the last two decades; they have shown an uncanny ability to produce able men for the positions of high military leadership and an unusual capacity for adapting to the new circumstances and tasks that have been thrust upon them. Without going into the details of the case, it can be said with some confidence that few nations have had as much reason to trust in the dedication and skill of the military establishment as has the United States. In the light of these considerations, the desirable procedure would seem to be to encourage the trends that are already developing. At the highest levels, the military have shown a most exemplary desire to coordinate their policies with, and if necessary subordinate them to, the other branches of government. They have accepted gracefully the assignment of diplomatic advisers to their commands and have employed civilian consultants on a lavish scale. What is more, they have shown a praiseworthy eagerness to adapt the programs of the service colleges to the new requirements placed upon them by the nuclear age. No doubt there are countervailing trends and arguments; no doubt the problem needs continuing and sympathetic study, devoid of fantasies about the malevolence of the military mind. But on the basis of the performance by the armed services since the Second World War, it seems reasonable to believe that the circumstances call for an intensified effort to increase the military officer's insight into the complexity and delicacy of his problems rather than for a redefinition of the military sphere of competence. This is not to suggest that the military officer should become a political, economic, and social expert as well as a military one. It is meant simply to imply that he should be made increasingly aware of the degree and scope of his functions and responsibilities so that he can solicit and make use of whatever advice may be available from these other realms. What patterns of organization and authority may develop from this expansion in orientation and participation need be of less concern than that the expansion itself should take place, and that it should take place without diluting the traditional military virtues.

THE MONTH'S BOOKS

Tribute to Industry

MIRACLE OF WORLD WAR II: How American Industry Made Victory Possible
By Francis Walton
The Macmillan Company, 1956
575 Pages; Index; $7.50

Reviewed by
BRIG. GEN. DONALD ARMSTRONG

One short paragraph in this excellent and readable study of American industry in World War II epitomizes the reasons why this book is important for the combat forces. On page 234 Mr. Walton writes: "As the war clouds closed in over Europe for the second time, there is reason to believe that the Army General Staff shared the common civilian misconception that tanks could be easily made by industry at any time they were really needed. The fallacy of this thinking is apparent in the simple truth that tank building is basically a problem of coordinating a large group of dissimilar and highly specialized industries—gear and engine production, transmission making, the processing of high-grade rubber and steel, plus the services of metallurgists in armor plate. A heavy tank of World War II design required 90,000 pounds of steel, 1,500 pounds of copper, and 100 pounds of brass."

Any illusions among line officers about the problems of utilizing our manufacturing plants in war may irreparably hurt our chances for victory. If World War II was a war of precision tools, technological advances since then have added to the difficulties of production. It is highly important for soldiers to understand the intricacies of mass production. No soldier can read this book without realizing that his recommendations and decisions concerning weapons carry down to the production lines in the factories and from there to mines and even farms and to many other elements in our economy.

This book can serve another purpose in today's strategic problems. Its story of the months needed to translate potential into actual military power, should warn us that we must not plan to fight World War II over again. We shall not have a year or more to get our factories ready. We shall have to fight with what we have when the enemy attacks. So mobilized power, ready today, not mobilizable potential, is the shield of the republic against hostile aggression.

In order to avoid or lessen friction between the armed forces and the civilian population, those in higher military positions must have the kind of knowledge this book affords. How much productive capacity and raw materials must be left for the home front? What should be the attitude of the armed forces toward manpower and woman-power? Is the Army helping to solve the problem of industrial capacity and its effective use after a devastating nuclear attack?

Mr. Walton deals with specific cases, and not theories. He cites hundreds of examples of short cuts, of improvisation, of reducing human error in manufacturing, of substituting improved methods of administration and design of tools to save labor and time and materials in production and to improve quality.

Still a Mystery

THE REPORT ON UNIDENTIFIED FLYING OBJECTS
By Edward J. Ruppelt
Doubleday & Company, 1956
315 Pages; $4.50

Reviewed by
COLONEL S. LEGREE

To the layman, the maddening thing about flying-saucer reports is that they are so inconclusive. The daily press gives the sightings a big build-up for a few days then forgets about them, leaving the poor bewildered reader craning his neck at the sky, afraid he'll see one and that no one, including himself, will believe it.

At last, if we can believe Mr. Ruppelt, the secret is out. Even the Air Force doesn't know the answer! Of many sightings, some are hoaxes, some are illusions, and some are unexplained. It is the unexplained ones that require the most aspirin; the real Unidentified Flying Object is still unidentified.

The Air Force, charged with learning what it could about these mysterious sightings, has had some peculiar gyrations in its attitude toward the problem. The people in charge at different times have bent their efforts toward disproving all reports, or hiding them, or—if we are to believe the apparently credible Mr. Ruppelt—going at the problem in an unbiased and scientific manner at least during the author's period in charge of the project.

And what is the result of all this investigation? Mr. Ruppelt's last four words come to the most honest conclusion in any book by any expert in the past few years: "Only time will tell."

Lest you think that these four words are hardly recompense for wading through 315 pages of fairly small type, be assured that there is some fascinating reading here, during which you'll observe fools, rogues, honest scientists and earnest citizens in action. This appears to be the best-balanced, least-biased of the many UFO books on the market now.

Friend or Foe?

RETURN TO POWER: A Report on the New Germany
By Alistair Horne
Frederick A. Praeger, 1956
415 Pages; $6.00

Reviewed by
COL. CHARLES A. H. THOMSON

Alistair Horne, for two years Bonn correspondent for the London *Daily Telegraph*, has written a very good journalist's account of developments in Germany from 1952 to 1955. Horne begins with the signature of the Bonn Agreements and of the EDC pact in 1952. These documents, both fated to fall short of full legal force, nevertheless put a period to the wartime anti-Axis Grand Alliance and marked the return of West Germany to the international community. These treaties were also supposed to signal a trend toward Franco-German *rapprochement*, with the creation of a European army and the interment of demands for revenge. But both documents have played a very real role in the course of world affairs, and Horne has looked at it from the viewpoint of West German developments.

The story is long and detailed, but never dull. Horne tells it with a wide range of relevant detail, with a sharp reporter's judgment, and a quick-moving

THE MONTH'S REVIEWERS

Brig. Gen. Donald Armstrong is a former Commandant of the Industrial College of the Armed Forces and a contributing editor to ***ARMY***.

Col. Charles A. H. Thomson, MI-USAR, who has contributed many reviews to ***ARMY***, is on the staff of the Brookings Institution.

Col. Robert F. Cocklin, Artillery, is Chief of Staff of the DCNG, and business manager of ***ARMY***.

Lt. Col. Paul M. A. Linebarger, USAR, is a consultant to the Department of the Army in psywar. In civilian life he is on the staff of The Johns Hopkins School of Advanced International Studies.

Colonel S. Legree is the pseudonym of a Reserve officer who has contributed many reviews and articles to ***ARMY*** and its predecessors.

Selected Check List of the Month's Books

This run-down of some of the books received for review during the month preceding our deadline is to give our readers who like to follow current literature a monthly check list of the most important, useful and potentially popular books. Full reviews of some of these books will appear in this or subsequent issues. Any of these titles may be purchased through the Combat Forces Book Service. See page 64 for order coupon and a complete listing of Selected Books for Military Readers.

THE AIRCRAFT OF THE WORLD. By William Green and Gerald Pollinger. Hanover House, 1956. New, revised and enlarged edition. 211 Pages; Illustrated; Index; $7.95. Pictures and specifications of most of the world's aircraft known to be flying at press time. Printed in Great Britain.

THE CIVILIAN AND THE MILITARY. By Arthur A. Ekirch, Jr. Oxford University Press, 1956. 340 Pages; Index; $6.50. The author fears for the future of democracy and liberalism because of the growing power of the military in social, political and economic organization.

THE GOLDEN YEARS: An Invitation to Retirement. By Thomas Collins. The John Day Company, 1956. 251 Pages; $3.75. Although written for civilians, and with no mention of the problems of military retirement, this is a most sensible approach to the problem of economic survival in later life.

A HISTORY OF MILITARY AFFAIRS SINCE THE EIGHTEENTH CENTURY. Edited with introductions by Gordon D. Turner. Harcourt, Brace & Company, 1956. 738 Pages; $7.50. Revised from the 1953 edition. A book of readings for a course of study for prospective officers of the military services. A broad selection written for the most part by recognized authorities.

LAND OF THE LONG DAY. By Doug Wilkinson. Henry Holt & Company, 1956. 261 Pages; Index; $4.00. Life among the Eskimos, by a Canadian who tried it for thirteen months as the adopted son of an Eskimo family.

LINCOLN AND THE TOOLS OF WAR. By Robert V. Bruce. The Bobbs-Merrill Company, 1956. 368 Pages; Illustrated; Index; $5.00. Logisticians, reading this book, will indulge in wry smiles; it all sounds so familiar.

LINCOLN'S FIFTH WHEEL: The Political History of the U. S. Sanitary Commission. By William Quentin Maxwell; Preface by Allan Nevins. Longmans, Green & Company, 1956. 372 Pages; Index; $5.00. A stirring story of frustration and dedication that should make us appreciate the Army Medical Service and the Red Cross.

THE MEANING OF YALTA: Big Three Diplomacy and the Balance of Power. By John L. Snell (editor), Charles F. Delzell, George F. Lensen and Forrest C. Pogue. Louisiana State University Press, 1956. 239 Pages; Index; $3.75. A middle-of-the-road view of Yalta and its aftermath.

REACTIONARY! Sgt. Lloyd C. Pate's Story as Told to B. J. Cutler. Harper & Brothers, 1956. 150 Pages; $2.50. A well-told story by an enlisted man who resisted the worst the Chinese Communists could throw at him, and fought back to the best of his ability. A chapter appeared in the April issue of this magazine.

ROBERT E. LEE. By Earl Schenck Miers. Alfred A. Knopf, 1956. 211 Pages; Index; $2.50. Less than 60,000 words compresses the life of Lee to a few hours of reading. Well done, but unsatisfying for true students.

A SAILOR'S LIFE. By Jan de Hartog. Harper & Brothers, 1956. 210 Pages; Illustrated; $3.00. Here is the real flavor of the sea, written in the form of advice to the youngster about to begin his career in the merchant service.

SICKLES THE INCREDIBLE. By W. A. Swanberg. Charles Scribner's Sons, 1956. 433 Pages; Illustrated; Index; $6.00. A biography of Maj. Gen. Daniel E. Sickles, perhaps the gaudiest American of his day.

SOLDIER: The Memoirs of Matthew B. Ridgway. As told to Harold H. Martin. Harper & Brothers, 1956. 371 Pages; Illustrated; Index; $5.00. The long-awaited autobiography of a man who personifies the title. Over four times as long as *The Saturday Evening Post* series, and with much material that was written after the *Post* series. For every soldier's library.

THE UNITED STATES IN HISTORY. By James T. Shotwell. Simon & Schuster, 1956. 234 Pages; $3.50. A moving but superficial, short but thought-provoking report on what brought the United States to the present crossroads of hope and danger.

WHAT A YEAR! By Joe Alex Morris. Harper & Brothers, 1956. 338 Pages; $3.95. A fast-moving history of a year that most of us would rather forget.

THE WHITE KEPI: A Casual History of the French Foreign Legion. By Walter Kanitz. Henry Regnery Company, 1956. 364 Pages; $5.00. Apparently objective, certainly sympathetic, and unfortunately repetitious, this history of the Foreign Legion doesn't offer the readability we have learned to expect of stories of this famed force. Students of warfare will find it a valuable reference work.

ZERO! By Masatake Okumiya and Jiro Horikoshi with Martin Caidin. E. P. Dutton & Company, 1956. 424 Pages; Index; $5.00. The Pacific naval air war from the Japanese side. Of primary interest to airmen, the work is still of much interest to students of World War II history and of military potential.

style. Written chiefly for Britishers, the treatment will be most congenial to a British audience, but it is nonetheless comprehensible to the American reader, and the more valuable since it throws light both on German event and British appraisal. The judgment of American policies and actions is on the whole sympathetic and just.

Horne was faced with conflict from the moment of his arrival in Berlin—just when the British finally put barbed wire around the Soviet broadcasting house in the British sector. His treatment goes far beyond local bickering with international overtones. He pithily describes his main characters, especially the German leaders from Adenauer on down, and their parties, each facing in his own way the heroic problems of moving away from the pathological burden of the Hitlerian past in efforts to recapture reputation and influence in the family of nations. The factor of influence came the more easily because of Germany's resources and strategic location; the factor of reputation proves more difficult, although Horne perceives no serious danger of a rise of German militarism or perverted nationalism.

Re-creation of military forces, if not remilitarization; reestablishment of a viable economy; creation and maintenance of a workable relation with both West and East, culminating in the all but insoluble problem of reunification—all are recounted here. Germany's relation to EDC and to NATO is the main political theme of the book, and the political complications which have beset German leadership in carrying on those relations are clearly set out. There are plenty of moving and amusing incidents.

As a picture of Germany today and its fantastic development over the past four years, *Return to Power* is good indeed. If the reader quarrels with Horne's judgments about Germany's place in the world picture, or on other topics, he is free to make his own.

Defeat of the U-boat

THE ATLANTIC BATTLE WON. Volume X of History of United States Naval Operations in World War II
By Samuel Eliot Morison
Atlantic-Little, Brown & Company, 1956
399 Pages; Illustrated; Index; $6.00

Reviewed by
COL. ROBERT F. COCKLIN

Samuel Eliot Morison's tenth volume in his series on U. S. naval operations in World War II records the final defeat of the Atlantic U-boat menace during the period May 1943 to May 1945. As in his previous volumes, Morison has brought together a useful compendium of statistics, dates, places and names, in-

cluding thumbnail footnote biographies of the principal commanders.

In the early years of World War II, the Germans came perilously close to winning control of Atlantic waters. In June 1942, for example, Admiral Doenitz's undersea raiders sank 121 Allied ships of some 613,000 tons while the combined U. S. and British effort managed to sink only three U-boats. As the situation grew more desperate, strong differences of opinion arose between the Royal Navy and our own as to the best methods of organization for combatting German submarines. Within our own establishment, there was considerable confusion and overlapping responsibility. Planes of the Navy, the Army Air Forces and the Civil Air Patrol were all participating in antisubmarine work without a single coordinating head. Admiral King finally stepped in, organized the Tenth Fleet, pushed the Army Air Forces out, and took control of the situation.

There is a lesson for the Army in this naval history that has current applicability. In describing how the Navy managed to get land-based antisubmarine aircraft away from the Army Air Corps, Morison states the Navy's basic philosophy: "The Navy system of command is functional; the Commander of an operation or mission uses any necessary weapons or forces, whether they be ground troops, ships, tanks or planes." He points out that the Army Air Forces system "was to make the criterion weapons rather than functions or mission." In upholding the Navy's position, Morison cites an example, the moral of which has haunted the Army ever since the Air Force won autonomy:

"The Marine Corps is a separate corps with the Navy but the Marines never boggled at Navy overall command [at least not out loud] in an operation in which they jointly took part. If the Army system had prevailed, a Navy amphibious force commander in the Pacific would have had to go through the Commandant of the Marine Corps in Washington before ordering the Marines to do any different from the operations order."

Apparently Morison thinks this is an outrageous example, but the Army could assure him that it is no joke. The Navy has stuck to its guns through all the postwar "unification" and has retained its air and ground arms and the guided missiles it needs. The Army "cooperated" and has been fair game ever since and is fighting now to keep from being euchred out of the guided missiles it so urgently needs to fulfill its missions. Moreover, according to testimony of the Chief of Staff of the Air Force before Congress, the Air Force could not now rustle up enough transport aircraft to move a full Army division overseas.

Morison's thoroughness imparts a lasting value to all his works. You can find everything you need to know about the Atlantic battle in this book. Here are all the pertinent statistics, and even eighteen diagrams to chart the locations of the sinkings of submarines and surface vessels.

Meeting the Soviet War of Ideas

FACTS TO A CANDID WORLD: America's Overseas Information Program
By Oren Stephens
Stanford University Press, 1955
164 Pages; $3.50

Reviewed by
LT. COL. PAUL M. A. LINEBARGER

This book is interesting to military readers because it is an up-to-the-minute statement of what top-ranking American civilians consider American civilian Psywar.

The civilian view of what the United States Information Agency (USIA) thinks it is doing should be widely read and appreciated in the Army. Many bull sessions would be cut short if people knew just what Messrs. Theodore Streibert and Abbott Washburn and their colleagues were achieving in fighting the weaponless war on a stripped-down budget.

Many comments on "Why doesn't America . . .?" would stop in mid-sentence if the Army man doing the talking would take time to find out that America—meaning his own government and the same Treasury Department which sends him a check every payday—was doing all that it could within the limits of our Constitution and our democracy to meet the Soviet war of ideas and emotions in the mass communications field.

Stephens's book is divided into two parts. In Part One, "The Background," he gives a rudimentary but persuasive sketch of all the antecedents to present-day propaganda operations. Especially important is his Chapter 6, discussing the postwar climate of world opinion, particularly his lucid and valuable description of the fact that we live in not one world, but three.

Part Two, "The Program," gives a serious and effective appraisal of the civilian organization for American psywar today on the civilian side. He does not do justice to the Army's potential in the field of psywar and he presents official U. S. speeches as being more authoritative than they are; but these are not serious faults in a work by a man who is not only a civilian, but an ex-Army civilian to boot.

Soldiers who read this book will be relieved to find that we have shrewd, sharp, young civilians capable of handling these sensitive new tools of struggle in the Cold War period.

How can we choose a military policy that will assure our national security?

MILITARY POLICY AND NATIONAL SECURITY

Edited by WILLIAM W. KAUFMANN

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Report from your AUSA CP

Turnover in Executive Council continues apace. Gen. RIGGS, Col. ELLIS, M/Sgt BRITTI are latest to leave Washington area to lend their very considerable talents to military matters elsewhere. Gen. RIGGS' replacement is Maj. Gen. GUY S. MELOY, Chief of Information and Education. Col. HUGH McC. EXTON, in Office of DCS/Personnel, takes post vacated by Col. ELLIS. M/Sgt JOSEPH H. BARGET, assigned to the Office of the Chief of Staff, replaces M/Sgt BRITTI.

New organization plan is now official. Special meeting in the Pentagon, held 2 March, hammered out last of changes to make plan acceptable. Under By-laws, plan lay on table under next Regular Meeting, held 26 March, and was approved at that time. More about this on pages 62-63 of this issue of ARMY. Implementation will take time but Annual Meeting, scheduled for October, should see full effect.

Speaking of Annual Meeting, don't make any dates for 25, 26, 27 October. Your Annual Meeting Committee, headed by Gen. J. D. O'CONNELL, has reserved those dates for a super-duper get-together in Washington. Date and place have been approved by Executive Council. If you thought last year's at Fort Benning was worthwhile, you'll have an eye-opener this time. Hotel housing for the well-heeled, BOQs for those who don't feel so prosperous, bunking with friends for those who have been on duty in Washington--the Arrangements Subcommittee, headed by Gen. VAN HOUTEN, is off and running. Col. CHARLES W. McCARTHY's Financial Subcommittee is shaving pennies to give you the most for the least. The Program Subcommittee, headed by Gen. HARKINS, is

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"The Association of the U. S. Army shall be an organization wherein all who are in accord with its objectives may join in the exchange of ideas and information on military matters, and in fostering, supporting, and advocating the legitimate and proper role of the Army of the United States and of all its elements, branches, and components in providing for and assuring the Nation's military security." *(Statement by the Executive Council, Association of the U. S. Army, adopted 14 December 1953.)*

dreaming up something to keep you interested every waking hour. Gen. MELOY heads the Publicity Subcommittee; Col. C. V. PICKELL, the Promotion Subcommittee. The staff's Col. COCKLIN, Assistant Secretary, has the task of coordinating the subcommittees.

It's time again to mention anonymous letters. We don't like them. We ignore them. We take no action on any we receive; we print none in "The Month's Mail." We have a rigid policy on this subject. Very occasionally we have mild regrets about the policy because we get an anonymous letter that has something important to say, but on the whole the quality of this type of mail is rather low. Please--if what you have to say is worth the paper and postage, it's worth signing. No person on the AUSA staff has the authority, or even the inclination, to punish anyone, least of all a member, for expressing his views on any subject. If you want your identity concealed for any reason, the Editor and staff will hold your name in complete confidence. A previous editor risked serious difficulties to keep a name confidential; your present staff will do the same. And mark this: NO MEMBER OF THE EXECUTIVE COUNCIL HAS EVER ASKED THE STAFF TO DIVULGE A NAME.

MAJ. GEN. MELOY

Announcement about availability of lapel buttons has brought new idea from a member. Captain suggests window decals for automobiles, to advertise Association, to provide recognition means among members, and express pride in the Army itself. This is expensive undertaking, more expensive than lapel buttons. Your Secretary would like expressions from members as to desirability and acceptability before asking Finance Committee for authority to commit funds for this project. Write if you're interested.

COL. EXTON

New committee assignments among Executive Council members are announced. Gen. O'CONNELL now heads Annual Meeting Arrangements Committee, vice Gen. PRENTISS, recently retired. Gen. WESTMORELAND is new head of Membership Committee, vice Gen. FRY, who is scheduled to leave CONUS. Committee chairmen, finding much to do at this critical stage in Association affairs, are increasingly taking advantage of their privilege of asking President to appoint committee members who are not members of Executive Council, but do hold membership in Association. This arrangement has advantages, including bringing in new talent and more help, and permitting membership at large to take more active part in government of Association.

M/SGT. BARGET

For those who believe membership in the Association is too much trouble, or five-dollar membership fee is too much to pay for welfare of the individual and the Army, we offer case of Col. BUNKER, member of the Executive Council. Formerly stationed at Fort Eustis, now on duty at St. Louis, Col. BUNKER has never missed a Council meeting, Regular or Special, except once while his command was being inspected by Chief of Staff and once while in the hospital.

YOUR SECRETARY

AIMS AND OBJECTIVES OF THE ASSOCIATION OF THE U. S. ARMY

To contribute its full resources and capabilities to advancing the security of the United States.

To consolidate the efforts of all who support the United States Army as an indispensable instrument of national security.

To maintain a military posture which will support the national interests in the wide variety of situations which may threaten the security of the United States.

To support a national military policy that will promote stability and peace throughout the world.

To inform the American people of the fundamental facts and factors pertaining to the national security.

To promote greater recognition of the military profession and to advocate policies that will advance the well-being and opportunities of those who pursue a military career.

To cultivate cordial relations and mutual understanding and support among the several military forces within the Department of Defense.

To foster public understanding and support of the United States Army.

To assist in informing the members of the Association and the public of the development of the United States Army and to keep them abreast of new accomplishments by the Army.

To promote and perpetuate those Army and unit traditions that contribute to the esprit de corps and superior performance of duty.

To preserve and foster the spirit of fellowship among former, present and future members of the United States Army and the Association of the United States Army and provide an organization through which they may unite in bonds of comradeship.

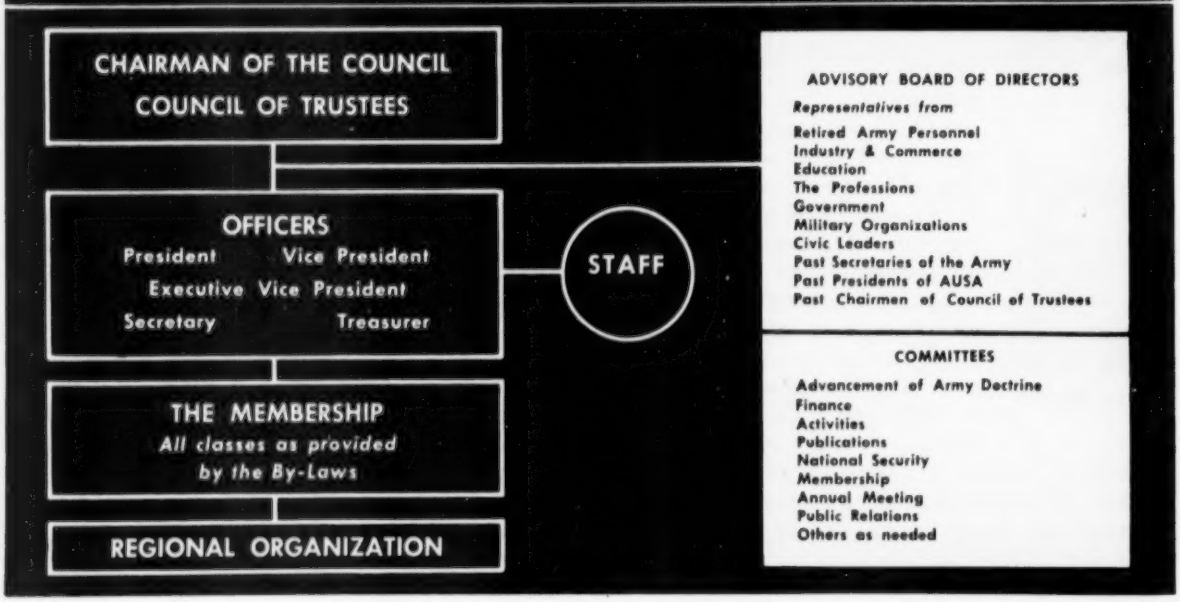
To commemorate the memory of soldiers who gave their lives in the service of our country.

To publish a professional military magazine devoted to the dissemination of information and ideas relating to the military art and science representing the interests of the entire Army. This publication, known as ***ARMY,*** shall strive to

- ¶ Advance man's knowledge of warfare in the fields of strategy, tactics, logistics, operations, administration, weapons and weapons systems.
- ¶ Advance man's knowledge and understanding of the soldier as an individual, as a member of a trained unit, and as a member of the whole Army, emphasizing leadership, esprit, loyalty and a high sense of duty.
- ¶ Disseminate knowledge of military history, especially articles that have application to current problems or foster tradition and create esprit.
- ¶ Explain the important and vital role of the United States Army in the nation's defense and show that the Army is alert to the challenges of new weapons, machines, and methods.
- ¶ Advance the status of the soldier's profession.

The Association shall establish such instrumentalities as are necessary to carry out the foregoing aims and objectives.

ORGANIZATION OF THE ASSOCIATION OF THE U. S. ARMY



The New AUSA

A report to the Membership by LT. GEN. WALTER L. WEIBLE, *President*, AUSA

THE need for a stronger Association of the United States Army, better able to promote the best interests of National Security and to educate the American public on the vital role of the United States Army and the soldier, has long been manifest, not only to members of the Executive Council of your Association but to a large and representative section of the membership. Expression of this need was clear and vocal at the First Annual Meeting of the Association at Fort Benning last October.

There has been no lack of ideas and suggestions as to what could be done to make the Association more vigorous. What was needed was a thorough and systematic study of the problem and a determination of the best way to achieve the desired results. I appointed a committee headed by Major General Harry McK. Roper to undertake this task. This committee worked long and diligently, and developed a concept that the Council approved in principle and which was published in the February issue of the Association's magazine. Comment of the membership was requested. In addition, the committee asked a number of senior officers, active and retired, and business leaders for their views on the proposal. An overwhelming number of those who responded favored the proposal.

On 2 March 1956 I called a special meeting of the Executive Council to consider the proposed organization formally. Each member received in advance a copy of the proposed new By-Laws for study. After extended discussion and explanation the Executive Council formally approved the plan. Under the Association's By-Laws, it had to lie over until a second meeting for final approval. The Council met in regular session on 26 March 1956 and again approved the new By-Laws.

The new By-Laws embrace these four principal points: (1) broaden the aims and purposes of the Association *(see opposite page)*; (2) establish new categories of membership; (3) increase the activities of the Association; (4) eliminate active-duty personnel from the governing body of the Association.

THE chart at the bottom of the opposite page shows how the Association will be organized. The governing body will be a Council of Trustees consisting of eleven members, with the President and Executive Vice President sitting as *ex officio* members. This Council will provide broad policy direction and will supervise the financial affairs of the Association. The officers and staff will carry out the policy directives of the Council.

To assist and advise the Council, officers and staff, there will be an Advisory Board of Directors. This Board will be drawn from American business and professional leaders. The Advisory Board of Directors will participate on standing committees, organized to consider problems in various areas of Association and Army interest.

In their deliberations both General Roper's committee and the Executive Council were aware that the principal reservation of the few who hesitated to endorse the plan and an unanswered question in the minds of many who favored it, was whether the Association and its publication would retain a professional tone if governed and operated by non-active-duty personnel. To cover this point the aims and purposes in the By-Laws require the continuation of the magazine as a professional military organ. Also, prior military service is required of members of the governing body.

On the present Executive Council twenty-one members are currently on active duty; two are recently retired Regular Army officers, and seven members are from the National Guard and Army Reserve. It was unanimously agreed that the Association could not carry out effectively its aims and purposes with active-duty personnel in its government. Hence it would be in the best interests of national security if the Association were governed by personnel not on active duty.

It is the intention of the present Executive Council to transfer their responsibilities to the new governing body at the Second Annual Meeting of the Association in October. To effect this transfer, I have appointed a committee headed by our Vice President, Major General Donald P. Booth. This committee has the task of making up a slate of members for the Council of Trustees and the Advisory Board of Directors for submission to the present Executive Council. The key position of Executive Vice President must also be filled.

IN closing, I assure you that your officers and Executive Council did not go into this matter lightly. They have been motivated at all times by the desire to perfect an organization that can provide the service that is so badly needed and to insure that the assets and good name of the Association of the United States Army would be fully protected and, indeed, enhanced. I am convinced that under this new organization the Association of the United States Army will prosper and will become a vigorous and influential voice working for the best interests of every soldier, the Army, and the Nation.

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